

CANDIDE 2.0

Model Description

Volume One



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Economic Council of Canada


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v.1
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CANDIDE MODEL 2.0

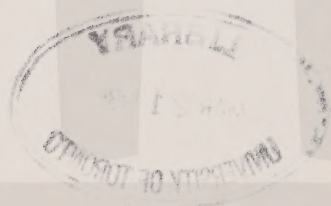
MODEL DESCRIPTION



ECONOMIC COUNCIL OF CANADA
OCTOBER, 1979



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PREFACE

This document contains a detailed description of CANDIDE Model 2.0. CANDIDE Model 2.0 development began in May of 1977. Between May and November of 1977 a new data base was developed. Between December 1977 and August of 1978, the equations and identities associated with CANDIDE Model 2.0 were estimated and organized for purposes of simulation and testing. During the months of September through December 1978 CANDIDE Model 2.0 was subjected to a variety of inside and outside sample period sensitivity tests. Since January of 1979 CANDIDE Model 2.0 has been used for a variety of research tasks at the Economic Council of Canada including background studies for the 16th Annual Review.

CANDIDE Model 2.0 is large compared to previous versions of CANDIDE. A project of this scope and size involves a varied and diverse set of talents. The CANDIDE Model 2.0 project could not have been completed without the co-operative support of those individuals and agencies recorded below.

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Special thanks go to Sylvia Ostry, D.W. Slater,
R.J. Levésque, George Post, André Raynault, and John Dawson
for encouragement during the various stages of development
and testing. The Bank of Canada research staff and the
Department of Finance research staff also provided many
useful exchanges during the development and testing period.

Special thanks also goes to H.E.L. Waslander who
provided useful background on previous versions of CANDIDE.

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

NO. 1000

1950

BY

DR. J. H. GOLD

AND

DR. R. M. M. M.

CHICAGO, ILL.

1950

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D. Whillans)
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INTRODUCTION

CANDIDE Model 2.0 is a large scale macro-econometric model of the Canadian economy with extensive industry detail. In many respects, it is unlike previous versions of the CANDIDE Model (CANDIDE Model 1.0, CANDIDE Model 1.1, CANDIDE Model 1.2, and CANDIDE Model 1.2M). CANDIDE Model 2.0, like earlier versions of CANDIDE, brings together the National Accounts data of Statistics Canada, the Industry Product Division data of Statistics Canada, the Input-Output Division data of Statistics Canada, and various other data bases, combining them with statistical and economic theory to produce a disciplined way of simulating the behaviour of consumers, producers, investors, wage earners, banks, governments, and foreigners. Previous versions of CANDIDE were not based on the 1977 revisions associated with the National Accounts, Industry Product Division and Input-Output Division data bases. The National Account revisions put forth in 1977 led to a reassessment of past versions of the CANDIDE Model and subsequently to a decision to initiate a more fundamental update to CANDIDE than that of simple data base update and re-estimation of the existing version.

The decision to initiate a more fundamental update to CANDIDE than that of simple data base update and re-estimation of the existing version of the model led to activity in four separate areas. (1) There was a need to

incorporate in CANDIDE Model 2.0 structural features which were not included in previous versions. These additions include: re-specification of labour supply and labour demand; a detailed industry breakdown of the factors affecting the user cost of capital specific to each industry and an assessment of their impact on investment decisions; an examination of the inflation expectation process and its impact on money wage rate determination; the introduction of an explicit budget constraint linking federal domestic program financing and foreign exchange financing to the composition of federal debt, composition of the assets of the nonfinancial public, and interest rate structure; the introduction of a structural mechanism by which federal and provincial personal income tax is determined; the re-design of exchange rate and balance of payments determination; the re-design of the residential housing sector including the addition of a mortgage market model; the re-design of the government sector accounts with subsequent disaggregation of revenues and expenditures for federal, provincial, municipal and local, hospital, and Canada/Quebec Pension plans; a review of government indexing rules associated with selected revenues and transfer items; and the redesign of the export block to closely approximate the new level of industrial disaggregation in Candide Model 2.0.

(2) Along with these new innovative structural features, effort was also concentrated on the re-design of the input-output sector in Candide Model 2.0. A new set of 1971 based input-output tables are used with new aggregation

levels. The new aggregation levels have implications for the rest of the system. These new aggregation levels impart a balance to the system which required the addition of industrial detail for wage rates, prices, manhours, employment, investment, and capital stock.

(3) The introduction of a new set of National Account data on a 1971 base led to a complete revision of all National Accounts data associated with CANDIDE Model 2.0.

Also revised were the Industry Product Division estimates for Real Domestic Product. When constructing the new data base for CANDIDE Model 2.0 we took the opportunity to review the variable naming conventions and introduced an orderly method to identify variables associated with the CANDIDE Model 2.0 data base that is described in the Data Appendix.

(4) In developing CANDIDE Model 2.0 we also used new management techniques to monitor data bank construction, estimation, simulation, and projection exercises. New computer software was used to manage model development and model testing. These new management techniques are also available to the user when applying CANDIDE Model 2.0 in simulation and projection exercises.

In this volume you will find a general description of each block of CANDIDE Model 2.0. Each section contains:

(1) a discussion of the important structural features in

each block; (2) a schematic listing of the equations, identities and exogenous variables associated with each block; and (3) a detailed listing of the estimated equations. CANDIDE Model 2.0 contains 830 behavioural equations, 1,531 institutional, technical or accounting identities and 948 exogenous variables. In total there are 3,309 separate economic indicators associated with CANDIDE Model 2.0. It is perhaps easiest to understand the structure of CANDIDE Model 2.0 by examining the key features of each sector associated with the model. A breakdown of the various sectors is as follows: (1) Demography and labour supply, (2) final demand, (3) industry output determination, (4) labour requirements and the production functions, (5) industry wage formation, (6) nonwage income determination, (7) industry price formation, (8) final demand price determination, (9) government revenue and expenditure, (10) balance of payments and exchange rate, (11) finance and money.

There are a number of important new innovative structural features contained in CANDIDE Model 2.0. In the sections dealing with demography, labour supply and labour demand, the real wage plays an important market clearing role. It is the key link between the demographic block (labour supply) and the rest of the system. More simultaneity exists between demography (labour supply) and the rest of the system than was present in previous

versions of the CANDIDE Model. The user cost of capital although resident in previous versions of CANDIDE was neither industry nor policy specific. CANDIDE Model 2.0 includes industry specific user cost of capital variables, each of which has associated with it a number of policy specific exogenous factors. These are discussed in detail in the section on user cost. The role of expectations in the inflationary process and its influence on money wage rate determination (the Phillips Curve) is an important issue in the 1970's. CANDIDE Model 2.0 includes an expectation mechanism which is partially influenced by financing decisions of the federal government. In CANDIDE Model 2.0 it is possible for federal fiscal policy through its impact on the government deficit to influence both the position and the gradient of the Phillips Curve in the long run. This is facilitated by introducing: (1) an explicit budget constraint, (2) a debt portfolio model, and (3) an asset portfolio model. Since 1974 federal personal income taxes have been indexed. Also indexed have been a number of federal transfer items including pensions, family allowances, and unemployment insurance benefits. The indexing of federal personal income taxes was only one of the many things which influenced the decision to develop a structural federal personal income tax calculator. The calculator simulates Canada's federal personal income tax system. It combines endogenously generated distributional information on taxable income by tax bracket with endogenously generated

information on the indexed level of tax brackets. Exchange rate determination within CANDIDE Model 2.0 has been substantially revised. We have moved more towards a monetarist assessment of exchange rate fluctuations but have not excluded important considerations such as government intervention.

The new input-output tables within CANDIDE Model 2.0 are those associated with year 1971. In developing CANDIDE Model 2.0 we chose aggregation levels for industries and commodities which are identical. The aggregation levels in CANDIDE Model 2.0 are outlined in Table 1. These aggregation levels have implications for the remainder of the system. One of the major system wide structural changes that is contained in CANDIDE Model 2.0 is a re-balancing of the detail associated with industry wages, prices, output, investment, capital stock, exports, wagebill, user cost, manhours, employment, and hours. Except in a few isolated cases we have developed stochastic explanations at the industry level (Table 1) for each of these indicators. In doing this we re-organized the Bridge, Make and Use matrices of Statistics Canada by introducing the noncommercial sector into the body of the table thus eliminating the traditional fourth quadrant found in published versions of Statistics Canada input-output tables. Quadrant four has been carried as a group of noncommercial industries which have only original factor inputs and which make deliveries

TABLE 1.0

AGGREGATION LEVELS FOR PRODUCTION, WAGES, WAGEBILL,
INDUSTRY PRICES, INVESTMENT, USER COST,
CAPITAL STOCK, MANHOOURS, HOURS,
AND EMPLOYMENT

<u>INDUSTRY</u>	<u>ITEMS</u>
1	Agriculture, Fishing and Trapping
2	Forestry
3	Metal Mining
4	Coal Mining
5	Crude Petroleum, Nat'l Gas and Serv Incid to Mining
6	Non Metal Mining (Except Coal)
7	Food and Beverage
8	Tobacco Products
9	Rubber and Plastic Products
10	Leather
11	Textile
12	Knitting Mills and Clothing
13	Wood
14	Furniture and Fixtures
15	Paper and Allied
16	Printing, Publishing and Allied
17	Iron and Steel
18	Nonferrous Metal
19	Metal Fabricating
20	Machinery (Ex Electrical Machinery)
21	Motor Vehicle (Ex parts and Accessories)
22	Motor Vehicle Parts and Accessories
23	Non Auto Transport Equipment
24	Electrical Products
25	Non Metallic Mineral Products
26	Petroleum and Coal Products
27	Chemical and Chemical Products
28	Miscellaneous Manufacturing
29	Construction
30	Transportation
31	Communication
32	Utility
33	Wholesale and Retail Trade
34	Owner Occupied Dwellings
35	Finance, Insurance and Real Estate
36	Commercial Services
37	Other Noncommercial Services
38	College and University Education
39	Hospitals
40	Primary, Secondary and Non Univ Post Sec Educ
41	Federal Defence
42	Federal Non Defence
43	Local Government
44	Provincial Government
45	Non Competing Imports
46	Indirect Taxes, Commodities
47	Indirect Taxes, Non-commodities
48	Subsidies

only to final demand categories. This reorganization of Statistics Canada input-output data facilitates the computational procedures employed in solving CANDIDE Model 2.0.

The input-output data was not the only data base subject to revision. Associated with CANDIDE Model 2.0 is a complete revision of all National Accounts data and all Industry Product Division data. The rebalancing of CANDIDE Model 2.0, especially at the industry level, brought about the addition of industry detail for many series. This rebalancing also included a breakdown of the government accounts by level of government. Government accounts are now available for federal, provincial, municipal and local, hospital, and the Canada/Quebec Pension Plan. In developing the data base associated with CANDIDE Model 2.0 we introduced new naming conventions for all variables in the data base. The details associated with variable naming conventions are contained in the Data Appendix to this volume.

New management techniques (software) were also used to complete the various tasks associated with constructing CANDIDE Model 2.0. A new set of simulation programs, estimation programs, data bank management programs, including programs designed to develop specific data bases were used. The manuals describing these programs are available upon request.

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DEMOGRAPHY

Household decisions concerning the number of children (fertility decisions), human capital (school enrolment decisions), and labour force participation are influenced by both demographic and economic factors. The outcome of these decisions in turn subsequently contributes to the demographic and economic characteristics of the population. In the demographic block, we specify and estimate a number of behavioural equations with this important set of feedbacks in mind. These include the following: (1) fertility rate equations, (2) population cohort equations by age and sex, (3) participation rate equations by age and sex, (4) school enrolment equations and (5) family formation and household equations. One of the important variables determined in the demographic block is the labour force. Labour force is combined with employment to provide an estimate of the unemployment rate.

The fertility rate cohorts are divided as follows: females age 15-24, age 25-44, and age 45-49. The age 45-49 fertility rate cohort is currently treated as exogenous. There are two stochastic equations associated with the 15-24 cohort and the 25-44 cohort. The fertility rate equations

depend upon school enrolment rates, female participation rates, per capita GNE and cyclical variables (the rate of unemployment). The cohort 15-24 is sensitive to enrolment rates while the cohort 25-44 is sensitive to the female participation rate for the same cohort. Both of these variables have a negative influence on the attitude of females toward child bearing. Once fertility rates are determined, cohort aggregation occurs within the female population. Fertility rates are then used with the female cohort population 15-24, 25-44, and 45-49 to produce an estimate of total births. Total births are derived from an identity formed by multiplying the appropriate fertility rate with the appropriate female population cohort. The fertility rate cohorts include the age group 15-49. Because there are some births associated with females under 15 and possibly some associated with females over 49, a birth adjusting entry is required to bring the estimate of total births to published totals. We also model the birth adjusting entry.

Once total births are determined, we proceed to generate estimates of male and female population by five year cohorts. Important to the determination of population are the following factors: survival rates by cohort (male and female), births, and the level and age-sex distribution of net immigration. Given survival rates for each cohort

(male and female), total births including an estimate of the female-male split, and net immigration we generate separately male and female population by five year cohorts. Once male and female population is determined, total deaths are then determined residually. The cohort survival equations are straightforward. Using average survival rates and the age-sex distribution of net immigration for years 1960 through 1965, we derive time series for population cohorts that would result if survival rates remain unchanged from this average level. In the next step we develop stochastic equations which model the difference between population movements assuming fixed survival rates and observed population movements. These error adjustment equations also include as an important right hand side variable, real GNE per capita.

Although we model net immigration, we choose not to use this equation in simulation or projection exercises due to the close identification of policy with movements in this series. The structure of this equation reflects the response of net immigration to (1) relative opportunity (U.S. - Canada unemployment rate comparison) and (2) relative rewards (U.S. - Canada real wage comparisons).

The information on population by male and female cohort is generated primarily for use elsewhere in the

model. For instance, in the consumption block we need both total population and total households since our consumption functions are in per capita or per household terms. In the housing block, we need specific information on the size of the population cohort age 30-34. This is the prime age group that is buying new houses. In our family allowance equations, we need specific information on the size of cohorts of both male and female in the 0-18 year age group. There are other places outside the demographic block where population enters as a specific cohort or as a total. These are only a few examples.

One of the important places where population cohort information enters is in the determination of total labour force. Given male cohorts 14-19, 20-24, 25-54 and 55 and over, and female cohorts 14-24, 25-44, and 45 and over, labour force is determined once the appropriate participation rate associated with the respective population cohort is available. Labour force by male and female cohort is then aggregated to an economy wide total. This aggregate when combined with information obtained from the labour demand side of the model gives an estimate of the unemployment rate. When constructing the labour force estimates by cohort there are certain segments of the population which by definition are excluded from the labour force. These segments include population resident in

institutions and native people. Because of these definitional differences in population versus labour force concepts it is necessary to adjust the initial estimate obtained from the participation rate/population cohort identities. However, it is possible to model this adjusting entry. Two other indicators result from these calculations; these include an estimate of the secondary labour force participation rate and the size of the secondary labour force (labour force excluding males 25-54).

The seven most important stochastic equations in the demographic block are those associated with participation rates by aggregated male and female cohorts. In CANDIDE Model 2.0, female participation rates are explained by the after tax real wage, the unemployment rate, school enrolment rates, an unemployment insurance dummy, and the child/female ratio. The after tax real wage is justified from the work/leisure choice of neoclassical economics and from the new home economics. In all three female participation rate equations, the after tax real wage has a positive sign. As the real wage increases there is an incentive for females to enter the labour force to seek employment. The child/female ratio has a significant impact on the participation rates of females 14-24 and 25-44. The coefficient of the unemployment rate suggests the discouraged worker effect for females aged 14-24 and females

over 45. It supports the additional worker hypothesis for females 25-44. Although the coefficient of the unemployment rate is not significant, the signs are intuitively right.

Male participation rates are influenced by the after tax real wage, the unemployment rate, school enrolment rates, an unemployment insurance dummy and real pension benefits. Here too, the real wage has a positive long-run impact on male participation rates except for the age 25-54 cohort. For the prime male age group the coefficient on the enrolment rate is negative for both males age 14-19 and 20-24. Real pension benefits have a significant depressing effect on the participation rates of males age 55 and over. The real after tax wage has a significant influence on young males (age 14-19 and age 20-24). In these equations the real wage appears significant even with the inclusion of trend type variables such as enrolment rates and the child/female ratio.

Central to understanding how the labour supply mechanism works in CANDIDE Model 2.0 is to keep upper most in your mind the following: Changes in the real after tax wage influence movements in the participation rates. This is particularly true for participation rates associated with the secondary labour force.

In order to maintain a degree of flexibility, four of the participation rate equations have been entered into the model each with a primary and secondary specification. The differences between the primary and secondary specification are due to estimated differences in the response of the participation rate to the real after tax wage. The secondary specifications have similar long run elasticities, but smaller short run elasticities. In fact the secondary specifications are the preferred choice in simulations and projection work.

There are other aggregates determined in the demographic block. The two most important include information on school enrolment and information on family and household formation. Once we have population cohort information we determine elementary and secondary, non-university post secondary, under graduate (full time and part time), and graduate (full time and part time) enrolment by combining enrolment rates with population cohorts. There are six enrolment rate equations. These enrolment rate equations depend upon per capita income, the unemployment rate and lagged enrolment rates. The school enrolment information is used in the consumption, investment, and government expenditure blocks.

The demographic block also provides information on the number of families, number of households, number of family households and number of nonfamily households. Using marriage rates, divorce rates and net immigration, net family formation is projected using a system of identities. The number of families are then determined and from this, family and nonfamily households are determined. This information is used in the residential housing and consumption blocks.

In summary the demographic block is composed of two fertility rate equations, survival rate equations associated with male and female cohorts broken into five year intervals, a net immigration equation (not currently used in simulation), seven participation rate equations (four of which have alternative specifications), six enrolment rate equations and the equations and identities needed to provide estimates of families and households. Because of the influence of per capita GNE, the after tax real wage, and other indicators determined elsewhere in the model, on fertility rates, population cohort movements and participation rates, the demographic block is by no means recursive. It must be solved simultaneously with the rest of the model.

DEMOGRAPHIC BLOCK

VARIABLES DETERMINED OUTSIDE THE DEMOGRAPHIC BLOCK

CONSUMER PRICE INDEX
FED GOVT EXPND - TRNFS TO PRSNS, OLD AGE SECURITY
CANADA PENSION PLAN - BENEFITS PAID
QUEBEC PENSION PLAN - BENEFITS PAID
GROSS NATIONAL EXPENDITURE (1971\$)
GOVERNMENT REVENUE - DIRECT TAXES PERSONS
AVE WKLY HRS - TOTAL ECONOMY
EMPLOYMENT - TOTAL ECONOMY
DEFLATOR GROSS NATIONAL EXPENDITURE (GNE)
PERSONAL INCOME
AVE HRLY ERNS - TOTAL ECONOMY
UNEMPLOYMENT RATE, CIVILIAN LABOUR FORCE (US)
IMPLICIT DEFLATOR, GROSS NATIONAL PRODUCT (US)
COMPENSATION PER EMPLOYEE PER WK, ALL INDUSTRIES (US)

CPI
GEF.TPE.OASS
GEPENC.TPE.BENS
GEPENQ.TPE.BENS
GNE
GR.DT.P\$
HE
NE
PFGNE
PY\$
W
ZUSNRUT
ZUSPDGNP
ZUSWRCS

VARIABLES EXOGENOUS TO THE DEMOGRAPHIC BLOCK

FERTILITY RATE - AGE GROUP 45-49
RATIO OF DIVORCES TO TOTAL FAMILIES
IN THE PREVIOUS PERIOD
RATIO OF NET FAMILY IMMIGRATION TO
NET IMMIGRATION
RATIO OF FAMILY HOUSEHOLDS TO FAMILIES
DUMMY VARIABLE - UNEMPLOYMENT INSURANCE PROGRAM
DUMMY VARIABLE - PARTICIPATION RATE EQUATIONS

DFERT45.49 E
DRATE.DIVORC E
DRATE.NETFAMIMM E
DRATE.FAMHO E
DUIDUMMY E
DUMMY66 E

MALE PART RATE - AGE GROUP 14-19
MALE PART RATE - AGE GROUP 20-24
MALE PART RATE - AGE GROUP 25-54
MALE PART RATE - AGE GROUP 55 AND OVER
FEMALE PART RATE - AGE GROUP 14-24
FEMALE PART RATE - AGE GROUP 25-44
FEMALE PART RATE - AGE GROUP 45 AND OVER
MALE LABOUR FORCE - AGE GROUP 14-19
MALE LABOUR FORCE - AGE GROUP 20-24
MALE LABOUR FORCE - AGE GROUP 25-54
MALE LABOUR FORCE - AGE GROUP 55 AND OVER
FEMALE LABOUR FORCE - AGE GROUP 14-24
FEMALE LABOUR FORCE - AGE GROUP 25-44
FEMALE LABOUR FORCE - AGE GROUP 45 AND OVER
LABOUR FORCE (ADJUSTING ENTRY)
SECONDARY LABOUR FORCE
TOTAL LABOUR FORCE
TOTAL LABOUR FORCE - LF SURVEY
TOTAL PARTICIPATION RATE
SECONDARY LABOUR FORCE PARTICIPATION RATE
UNEMPLOYMENT RATE
RATIO OF DEATHS OF MARRIED PERS TO TOT FAM IN PREVIOUS PERIOD
RATIO OF ELE & SEC SCHOOL ENROLMENT TO POPULATION
05-19
RATIO OF FULL-TIME GRADUATE ENROLMENT TO POPULATION
20-29
RATIO OF PART-TIME GRADUATE ENROLMENT TO POPULATION
20-29
RATIO OF NON-UNIV POST-SEC ENROL TO POPULATION 15-24
RATIO OF FULL-TIME UNDERGRAD ENROLMENT TO POPULATION 15-24
RATIO OF PART-TIME UNDERGRAD ENROLMENT TO POPULATION 20-29
RATIO OF MARRIAGES TO POPULATION 14+
RATIO OF NONFAMILY HOUSEHOLDS TO POPULATION 14+
TOTAL MARRIAGES
NET FAMILY IMMIGRATION
TOTAL DIVORCES
DEATHS OF MARRIED PERSONS
NET FAMILY FORMATION
NUMBER OF FAMILIES
TOTAL NUMBER OF FAMILY HOUSEHOLDS
TOTAL NONFAMILY HOUSEHOLDS
TOTAL HOUSEHOLDS
ELEMENTARY AND SECONDARY SCHOOL ENROLMENT
POST-SECONDARY NONUNIVERSITY SCHOOL ENROLMENT
UNDERGRADUATE UNIVERSITY ENROLMENT FULL TIME
UNDERGRADUATE UNIVERSITY ENROLMENT PART TIME
GRADUATE UNIVERSITY ENROLMENT FULL TIME
GRADUATE UNIVERSITY ENROLMENT PART TIME
TOTAL UNIVERSITY ENROLMENT

Equation No.: 45

Name: Fertility Rate Age Group 15-24

Mnemonic: DFERT15.24

Period: 1954-74

DFERT15.24

= + 924.21100
(2.90)

- 2.73460 (DR.PSNUENROL(-1) + DR.UGRENROL.FT(-1))
(0.95)

+ 3.04578 DURATE(-1)
(2.23)

+ sum(i=1,3)b(i) ln((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
1	+17.05430	(0.50)
2	-33.24510	(2.40)
3	-83.54450	(2.58)
sum	-99.73530	(2.40)
(1,3,NONE)		

$\bar{R}^2 = 0.947$ SEE = 6.065 D.W. = 0.331 RHO = 0.774

Equation No.: 46

Name: Fertility Rate Age Group 25-44

Mnemonic: DFERT25.44

Period: 1954-74

ln(DFERT25.44)

= + 12.48440
(6.07)

+ 0.17256 ln(DURATE(-1))
(3.69)

- 0.67237 ln(DFPARTRATE25.44(-1))
(1.90)

+ sum(i=0,2)b(i) ln((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	-0.28244	(0.92)
1	-0.24097	(1.83)
2	-0.19951	(0.61)
sum	-0.72292	(1.83)
(1,3,NONE)		

$\bar{R}^2 = 0.975$

SEE = 0.0421

D.W. = 1.212

Equation No.: 48

Name: Births Adjusting Entry

Mnemonic: DBIRTHSADJ

Period: 1949-74

DBIRTHSADJ

= + 1.16754
(0.76)

+ 0.0024433 DFPOP10.14
(2.82)

+ 0.0098714 DFERT15.24
(1.25)

$\bar{R}^2 = 0.276$

SEE = 0.610

D.W. = 1.409

RHO = 0.100

Equation No.: 49

Name: Female Population Age Group 00-04

Mnemonic: DFPOP00.04

Period: 1953-74

```
DFPOP00.04 - ((.486 * .96424) * sum(i=0,4) DBIRTHS(-i)
- .05175 * sum(i=0,4) DNETIMM(-i))

= + .022014      ln((GNE / DPOP) * 1000)
  (0.09)

+ 1.43239      (DFPOP00.04(-1) - ((.486 * .96424)
  (7.22)        * sum(i=0,4) DBIRTHS(-i-1)) -
                (.05175 * sum(i=0,4) DNETIMM (-i-1)))

- .496863      (DFPOP00.04(-2) - ((.486 * .96424) *
  (2.55)        sum(i=0,4) DBIRTHS(-i-2)) -
                (.05175 * sum(i=0,4) DNETIMM(-i-2)))
```

$\bar{R}^2 = .935$

SEE = 8.364

D.W. = 1.848

Equation No.: 50

Name: Female Population Age Group 05-09

Mnemonic: DFPOP05.09

Period: 1953-74

DFPOP05.09 - (.95781 * DFPOP00.04(-5)) - (.04375 *
sum(i=0,4) DNETIMM(-i))

= + 2.49783 ln((GNE / DPOP) * 1000)
 (2.14)

+ 1.01038 (DFPOP05.09(-1) - (.95781 * DFPOP00.04(-6))
 (4.49) - (.04375 * sum(i=0,4) DNETIMM (-i-1)))

- .420660 (DFPOP05.09(-2) - (.95781 * DFPOP00.04(-7))
 (1.88) - (.04375 * sum(i=0,4) DNETIMM (-i-2)))

$\overline{R}^2 = .408$

SEE = 7.118

D.W. = 1.659

Equation No.: 51

Name: Female Population Age Group 10-14

Mnemonic: DFPOP10.14

Period: 1953-74

DFPOP10.14 - (.996648 * DFPOP05.09(-5)) - (.03050 *
sum(i=0,4) DNETIMM(-i))

= + .40329 ln((GNE / DPOP) * 1000)
(1.92)

+ .76926 (DFPOP10.14(-1) - (.996648 * DFPOP05.09(-6))
(3.52) - (.03050 * sum(i=0,4) DNETIMM (-i-1)))

- .26827 (DFPOP10.14(-2) - (.996648 * DFPOP05.09(-7))
(1.22) - (.03050 * sum(i=0,4) DNETIMM (-i-2)))

$\overline{R}^2 = .349$

SEE = 5.223

D.W. = 2.064

Equation No.: 52

Name: Female Population Age Group 14

Mnemonic: DFPOP14

Period: 1949-74

DFPOP14 / DFPOP10.14

= - 0.000029755
(0.001)

- 276.55900 1 / DPOP
(2.51)

+ 0.000073511 DFERT25.44
(1.43)

+ 1.04140 (DFPOP14(-1) / DFPOP10.14(-1))
(7.83)

$\bar{R}^2 = 0.911$

SEE = .002

D.W. = 1.400

Equation No.: 53

Name: Female Population Age Group 15-19

Mnemonic: DFPOP15.19

Period: 1953-74

DFPOP15.19 - (.997370 * DFPOP10.14(-5)) - (.03775 *
sum(i=0,4) DNETIMM(-i))

= - .28953 ln((GNE / DPOP) * 1000)
(1.61)

+ .97260 (DFPOP15.19(-1) - (.997370 * DFPOP10.14(-6))
(4.56) - (.03775 * sum(i=0,4) DNETIMM(-i-1)))

- .39988 (DFPOP15.19(-2) - (.997370 * DFPOP10.14(-7))
(1.69) - (.03775 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .512$

SEE = 4.133

D.W. = 2.066

Equation No.: 54

Name: Female Population Age Group 20-24

Mnemonic: DFPOP20.24

Period: 1953-74

DFPOP20.24 - (.996271 * DFPOP15.19(-5)) - (.09475 *
sum(i=0,4) DNETIMM(-i))

= - .63765 ln((GNE / DPOP) * 1000)
 (1.79)

+ .66273 (DFPOP20.24(-1) - (.996271 * DFPOP15.19(-6))
 (3.16) - (.09475 * sum(i=0,4) DNETIMM(-i-1)))

- .087475 (DFPOP20.24(-2) - (.996271 * DFPOP15.19(-7))
 (0.42) - (.09475 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .381$

SEE = 8.346

D.W. = 2.163

Equation No.: 55

Name: Female Population Age Group 25-29

Mnemonic: DFPOP25.29

Period: 1953-74

DFPOP25.29 - (.995319 * DFPOP20.24(-5)) - (.07475 *
sum(i=0,4) DNETIMM(-i))

= + .25991 ln((GNE / DPOP) * 1000)
(1.87)

+ .80220 (DFPOP25.29(-1) - (.995319 * DFPOP20.24(-6))
(3.67) - (.07475 * sum(i=0,4) DNETIMM(-i-1)))

+ .23435 (DFPOP25.29(-2) - (.995319 * DFPOP20.24(-7))
(0.81) - (.07475 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .775$

SEE = 4.745

D.W. = 2.021

Equation No.: 56

Name: Female Population Age Group 30-34

Mnemonic: DFPOP30.34

Period: 1953-74

DFPOP30.34 - (.994555 * DFPOP25.29(-5)) - (.04850 *
sum(i=0,4) DNETIMM(-i))

=	+	.31075	ln((GNE / DPOP) * 1000)
		(2.18)	
	+	.95244	(DFPOP30.34(-1) - (.994555 * DFPOP25.29(-6))
		(4.28)	- (.04850 * sum(i=0,4) DNETIMM(-i-1)))
	-	.24469	(DFPOP30.34(-2) - (.994555 * DFPOP25.29(-7))
		(1.16)	- (.04850 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .604$

SEE = 3.142

D.W. = 1.916

Equation No.: 57

Name: Female Population Age Group 35-39

Mnemonic: DFPOP35.39

Period: 1953-74

DFPOP35.39 - (.992949 * DFPOP30.34(-5)) - (.03375 *
sum(i=0,4) DNETIMM(-i))

= - .11864 ln((GNE / DPOP) * 1000)
(1.19)

+ .99477 (DFPOP35.39(-1) - (.992949 * DFPOP30.34(-6))
(3.76) - (.03375 * sum(i=0,4) DNETIMM(-i-1)))

+ .015197 (DFPOP35.39(-2) - (.992949 * DFPOP30.34(-7))
(0.05) - (.03375 * sum(i=0,4) DNETIMM(-i-2)))

$\overline{R}^2 = .935$

SEE = 2.361

D.W. = 1.809

Equation No.: 58

Name: Female Population Age Group 40-44

Mnemonic: DFPOP40.44

Period: 1953-74

DFPOP40.44 - (.989821 * DFPOP35.39(-5)) - (.02300 *
sum(i=0,4) DNETIMM(-i))

= - .17475 ln((GNE / DPOP) * 1000)
(1.85)

+ 1.22608 (DFPOP40.44(-1) - (.989821 * DFPOP35.39(-6))
(6.36) - (.02300 * sum(i=0,4) DNETIMM(-i-1)))

- .46006 (DFPOP40.44(-2) - (.989821 * DFPOP35.39(-7))
(2.465) - (.02300 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .798$

SEE = 2.873

D.W. = 1.773

Equation No.: 59

Name: Female Population Age Group 45-49

Mnemonic: DFPOP45.49

Period: 1953-74

DFPOP45.49 - (.985067 * DFPOP40.44(-5)) - (.01550 *
sum(i=0,4) DNETIMM(-i))

= - .18875 ln((GNE / DPOP) * 1000)
(1.76)

+ 1.05319 (DFPOP45.49(-1) - (.985067 * DFPOP40.44(-6))
(4.72) - (.01550 * sum(i=0,4) DNETIMM(-i-1)))

- .28296 (DFPOP45.49(-2) - (.985067 * DFPOP40.44(-7))
(1.07) - (.01550 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .670$

SEE = 2.134

D.W. = 1.909

Equation No.: 60

Name: Female Population Age Group 50-54

Mnemonic: DFPOP50.54

Period: 1953-74

DFPOP50.54 - (.977450 * DFPOP45.49(-5)) - (.01300 *
sum(i=0,4) DNETIMM(-i))

= - .19914 ln((GNE / DPOP) * 1000)
 (1.80)

+ .98617 (DFPOP50.54(-1) - (.977450 * DFPOP45.49(-6))
 (4.81) - (.01300 * sum(i=0,4) DNETIMM(-i-1)))

- .67024 (DFPOP50.54(-2) - (.977450 * DFPOP45.49(-7))
 (2.70) - (.01300 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .503$

SEE = 2.732

D.W. = 2.105

Equation No.: 61

Name: Female Population Age Group 55-59

Mnemonic: DFPOP55.59

Period: 1953-74

DFPOP55.59 - (.967903 * DFPOP50.54(-5)) - (.01100 *
sum(i=0,4) DNETIMM(-i))

= - .18685 ln((GNE / DPOP) * 1000)
(2.80)

+ 1.50982 (DFPOP55.59(-1) - (.967903 * DFPOP50.54(-6))
(9.91) - (.01100 * sum(i=0,4) DNETIMM(-i-1)))

- .80669 (DFPOP55.59(-2) - (.967903 * DFPOP50.54(-7))
(5.37) - (.01100 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .848$

SEE = 1.753

D.W. = 1.829

Equation No.: 62

Name: Female Population Age Group 60-64

Mnemonic: DFPOP60.64

Period: 1953-74

DFPOP60.64 - (.950840 * DFPOP55.59(-5)) - (.00850 *
sum(i=0,4) DNETIMM(-i))

= + .0086028 ln((GNE / DPOP) * 1000)
(0.19)

+ 1.45793 (DFPOP60.64(-1) - (.950840 * DFPOP55.59(-6))
(7.61) - (.00850 * sum(i=0,4) DNETIMM(-i-1)))

- .521132 (DFPOP60.64(-2) - (.950840 * DFPOP55.59(-7))
(2.72) - (.00850 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .948$

SEE = 1.578

D.W. = 1.794

Equation No.: 63

Name: Female Population 65 and over

Mnemonic: DFPOP65+

Period: 1953-74

DFPOP65+ - (.922936 * DFPOP60.64(-5)) - (.703380 * DFPOP65+(-5))
- (.01350 * sum(i=0,4) DNETIMM(-i))

= + .22329 ln((GNE / DPOP) * 1000)
(1.21)

+ 1.61953 (DFPOP65+(-1) - (.922936 * DFPOP60.64(-6))
(8.56) - (.703380 * DFPOP65+(-6)) - (.01350 *
sum(i=0,4) DNETIMM(-i-1)))

- .64430 (DFPOP65+(-2) - (.922936 * DFPOP60.64(-7))
(3.14) - (.703380 * DFPOP65+(-7)) - (.01350 *
sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .981$

SEE = 2.964

D.W. = 2.483

Equation No.: 71

Name: Male Population Age Group 00-04

Mnemonic: DMPOP00.04

Period: 1953-74

DMPOP00.04 - ((.514 * .95436) * sum(i=0,4) DBIRTHS(-i)) - (.05775 *
sum(i=0,4) DNETIMM(-i))

= + .035252 ln((GNE / DPOP) * 1000)
(0.12)

+ 1.44789 (DMPOP00.04(-1) - ((.514 * .95436) *
(7.37) sum(i=0,4) DBIRTHS (-i-1)) - (.05775
* sum(i=0,4) DNETIMM(-i-1)))

- .51167 (DMPOP00.04(-2) - ((.514 * .95436) *
(2.65) sum(i=0,4) DBIRTHS(-i-2)) - (.05775 *
sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .935$

SEE = 9.659

D.W. = 1.840

Equation No.: 72

Name: Male Population Age Group 05-09

Mnemonic: DMPOP05.09

Period: 1953-74

DMPOP05.09 - (.94667 * DMPOP00.04(-5)) - (.04750 *
sum(i=0,4) DNETIMM(-i))

= + 2.15255 ln((GNE / DPOP) * 1000)
 (1.55)

+ .99963 (DMPOP05.09(-1) - (.94667 * DMPOP00.04(-6))
 (4.32) - (.04750 * sum(i=0,4) DNETIMM(-i-1)))

- .29594 (DMPOP05.09(-2) - (.94667 * DMPOP00.04(-7))
 (1.24) - (.04750 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .423$

SEE = 7.079

D.W. = 1.617

Equation No.: 73

Name: Male Population Age Group 10-14

Mnemonic: DMPOP10.14

Period: 1953-74

DMPOP10.14 - (.995183 * DMPOP05.09(-5)) - (.03325 *
sum(i=0,4) DNETIMM(-i))

= + .31535	ln((GNE / DPOP) * 1000)
(1.48)	
+ .77900	(DMPOP10.14(-1) - (.995183 * DMPOP05.09(-6))
(3.43)	- (.03325 * sum(i=0,4) DNETIMM(-i-1)))
- .11078	(DMPOP10.14(-2) - (.995183 * DMPOP05.09(-7))
(0.49)	- (.03325 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .444$

SEE = 4.537

D.W. = 2.051

Equation No.: 74

Name: Male Population Age Group 14

Mnemonic: DMPOP14

Period: 1949-74

(DMPOP14 / DMPOP10.14)

= - 0.0052502
(0.28)

- 288.62700 1 / DPOP
(3.47)

+ 0.000072798 DFERT25.44
(1.80)

+ 1.07391 (DMPOP14(-1) / DMPOP10.14(-1))
(10.60)

$\bar{R}^2 = 0.959$

SEE = 0.001

D.W. = 1.378

Equation No.: 75

Name: Male Population Age Group 15-19

Mnemonic: DMPOP15.19

Period: 1953-74

DMPOP15.19 - (.995966 * DMPOP10.14(-5)) - (.03275 * sum(i=0,4)
DNETIMM(-i))

= - .25159 ln((GNE / DPOP) * 1000)
(0.94)

+ 1.14655 (DMPOP15.19(-1) - (.995966 * DMPOP10.14(-6))
(5.20) - (.03275 * sum(i=0,4) DNETIMM(-i-1)))

- .34742 (DMPOP15.19(-2) - (.995966 * DMPOP10.14(-7))
(1.30) - (.03275 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .690$

SEE = 4.156

D.W. = 1.923

Equation No.: 76

Name: Male Population Age Group 20-24

Mnemonic: DMPPOP20.24

Period: 1953-74

DMPPOP20.24 - (.993147 * DMPPOP15.19(-5)) - (.06375 * sum(i=0,4)
DNETIMM(-i))

= - .80705 ln((GNE / DPOP) * 1000)
(2.12)

+ .76849 (DMPPOP20.24(-1) - (.993147 * DMPPOP15.19(-6))
(3.43) - (.06375 * sum(i=0,4) DNETIMM(-i-1)))

- .24148 (DMPPOP20.24(-2) - (.993147 * DMPPOP15.19(-7))
(1.05) - (.06375 * sum(i=0,4) DNETIMM(-i-2)))

$\overline{R}^2 = .389$

SEE = 7.664

D.W. = 2.121

Equation No.: 77

Name: Male Population Age Group 25-29

Mnemonic: DMPOP25.29

Period: 1953-74

DMPOP25.29 - (.990803 * DMPOP20.24(-5)) - (.07950 * sum(i=0,4)
DNETIMM(-i))

= + .62609 ln((GNE / DPOP) * 1000)
(2.40)

+ 1.14588 (DMPOP25.29(-1) - (.990803 * DMPOP20.24(-6))
(5.45) - (.07950 * sum(i=0,4) DNETIMM(-i-1)))

- .42984 (DMPOP25.29(-2) - (.990803 * DMPOP20.24(-7))
(2.24) - (.07950 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .753$

SEE = 6.975

D.W. = 2.387

Equation No.: 78

Name: Male Population Age Group 30-34

Mnemonic: DMPOP30.34

Period: 1953-74

DMPOP30.34 - (.991303 * DMPOP25.29(-5)) - (.06075 * sum(i=0,4)
DNETIMM(-i))

= + .42015 ln((GNE / DPOP) * 1000)
(3.00)

+ 1.29230 (DMPOP30.34(-1) - (.991303 * DMPOP25.29(-6))
(7.42) - (.06075 * sum(i=0,4) DNETIMM(-i-1)))

- .53176 (DMPOP30.34(-2) - (.991303 * DMPOP25.29(-7))
(3.31) - (.06075 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .844$

SEE = 3.975

D.W. = 2.324

Equation No.: 79

Name: Male Population Age Group 35-39

Mnemonic: DMPOP35.39

Period: 1953-74

DMPOP35.39 - (.990024 * DMPOP30.34(-5)) - (.04400 * sum(i=0,4)
DNETIMM(-i))

= - .000782062 ln((GNE / DPOP) * 1000)
(0.01)

+ 1.25492 (DMPOP35.39(-1) - (.990024 * DMPOP30.34(-6))
(5.56) - (.04400 * sum(i=0,4) DNETIMM(-i-1)))

- .302470 (DMPOP35.39(-2) - (.990024 * DMPOP30.34(-7))
(1.27) - (.04400 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .904$

SEE = 3.317

D.W. = 1.999

Equation No.: 80

Name: Male Population Age Group 40-44

Mnemonic: DMPOP40.44

Period: 1953-74

DMPOP40.44 - (.987253 * DMPOP35.39(-5)) - (.02775 * sum(i=0,4)
DNETIMM(-i))

= - .070344. ln((GNE / DPOP) * 1000)
(0.86)

+ 1.30368 (DMPOP40.44(-1) - (.987253 * DMPOP35.39(-6))
(7.07) - (.02775 * sum(i=0,4) DNETIMM(-i-1)))

- .46317 (DMPOP40.44(-2) - (.987253 * DMPOP35.39(-7))
(2.56) - (.02775 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .876$

SEE = 3.084

D.W. = 1.924

Equation No.: 81

Name: Male Population Age Group 45-49

Mnemonic: DMPOP45.49

Period: 1953-74

DMPOP45.49 - (.980270 * DMPOP40.44(-5)) - (.01775 * sum(i=0,4)
DNETIMM(-i))

= - .12650 ln((GNE / DPOP) * 1000)
 (1.60)

+ 1.16581 (DMPOP45.49(-1) - (.980270 * DMPOP40.44(-6))
 (5.56) - (.01775 * sum(i=0,4) DNETIMM(-i-1)))

- .23712 (DMPOP45.49(-2) - (.980270 * DMPOP40.44(-7))
 (1.06) - (.01775 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .889$

SEE = 2.778

D.W. = 2.088

Equation No.: 82

Name: Male Population Age Group 50-54

Mnemonic: DMPOP50.54

Period: 1953-74

DMPOP50.54 - (.968367 * DMPOP45.49(-5)) - (.012000 * sum(i=0,4)
DNETIMM(-i))

= - .11845, ln((GNE / DPOP) * 1000)
(1.15)

+ 1.10792 (DMPOP50.54(-1) - (.968367 * DMPOP45.49(-6))
(5.15) - (.012000 * sum(i=0,4) DNETIMM(-i-1)))

- .39847 (DMPOP50.54(-2) - (.968367 * DMPOP45.49(-7))
(1.87) - (.012000 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .641$

SEE = 3.152

D.W. = 1.962

Equation No.: 83

Name: Male Population Age Group 55-59

Mnemonic: DMPPOP55.59

Period: 1953-74

DMPPOP55.59 - (.949235 * DMPPOP50.54(-5)) - (.008500 * sum(i=0,4)
DNETIMM(-i))

= - .52765 ln((GNE / DPOP) * 1000)
 (2.79)

+ 1.23289 (DMPPOP55.59(-1) - (.949235 * DMPPOP50.54(-6))
 (5.80) - (.008500 * sum(i=0,4) DNETIMM(-i-1)))

- .80956 (DMPPOP55.59(-2) - (.949235 * DMPPOP50.54(-7))
 (3.55) - (.008500 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .614$

SEE = 1.887

D.W. = 1.709

Equation No.: 84

Name: Male Population Age Group 60-64

Mnemonic: DMPOP60.64

Period: 1953-74

DMPOP60.64 - (.921622 * DMPOP55.59(-5)) - (.005500 * sum(i=0,4)
DNETIMM(-i))

= - .084863 ln((GNE / DPOP) * 1000)
(0.82)

+ 1.09004 (DMPOP60.64(-1) - (.921622 * DMPOP55.59(-6))
(5.08) - (.005500 * sum(i=0,4) DNETIMM(-i-1)))

- .22416 (DMPOP60.64(-2) - (.921622 * DMPOP55.59(-7))
(1.01) - (.005500 * sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .735$

SEE = 1.520

D.W. = 1.908

Equation No.: 85

Name: Male Population Age Group 65+

Mnemonic: DMPOP65+

Period: 1953-74

DMPOP65+ - (.88300 * DMPOP60.64(-5)) - (.67628 * DMPOP65+(-5)) -
(.0092 * sum(i=0,4) DNETIMM(-i))

= + .036302 ln((GNE / DPOP) *, 1000)
(0.34)

+ 1.20857 (DMPOP65+(-1) - (.88300 * DMPOP60.64(-6))
(5.76) - (.67628 * DMPOP65+(-6)) - (.0092
* sum(i=0,4) DNETIMM(-i-1)))

- .36278 (DMPOP65+(-2) - (.88300 * DMPOP60.64(-7))
(1.90) - (.67628 * DMPOP65+(-7)) - (.0092 *
sum(i=0,4) DNETIMM(-i-2)))

$\bar{R}^2 = .850$

SEE = 3.037

D.W. = 2.083

Equation No.: 93

Name: Net Immigration

Mnemonic: DNETIMM

Period: 1958-74

DNETIMM

= + 1606.93000
(3.00)

+ 1799.680000 ln(((W * HE) / PFGNE) * 100)
(6.94)

- 2027.95000 ln((ZUSWRC\$ / ZUSPDGNP) * 100)
(5.69)

+ sum(i=0,3)b(i) 1 / DURATE(-i)

+ sum(i=0,3)c(i) 1 / ZUSNRUT(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+614.63200	(5.21)	+ 66.51970	(0.33)
1	+366.89200	(5.87)	+ 81.75440	(1.01)
2	+317.61300	(3.85)	-182.01300	(2.97)
3	+466.79700	(2.82)	-724.78400	(5.44)
sum	+1765.9300	(8.95)	-758.52300	(2.04)
	(2,4,NONE)		(2,4,NONE)	

$\overline{R}^2 = 0.937$ SEE = 11.263 D.W. = 3.069 RHO = -.657

Equation No.: 95 (Primary)

Name: Male Participation Rate Age Group 14-19

Mnemonic: DMPARTRATE14.19

Period: 1956-75

DMPARTRATE14.19

$$\begin{aligned}
 = & + 25.29190 && (4.27) \\
 & + 113.55800 && \ln((W / CPI) * (100 - ((GR.DT.P\$ / PY\$) \\
 & && (6.23) \quad * 100)) / 100) \\
 & - 9.79717 && (DR.PSNUNENROL + DR.UGRENROL.FT) \\
 & && (7.27) \\
 & + 4.61945 && DUIDUMMY \\
 & && (2.28) \\
 & + 8.75208 && DUMMY66 \\
 & && (2.96) \\
 & + \text{sum}(i=0,3)b(i) && DURATE(-i)
 \end{aligned}$$

i	b(i)	t(i)
0	+0.54114	(1.27)
1	-0.16077	(0.47)
2	-0.42713	(1.26)
3	-0.25792	(0.48)
sum	- .304681	(0.42)
	(2,4,NONE)	

$\bar{R}^2 = 0.807$

SEE = 1.861

D.W. = 1.710

Equation No.: 95 (Secondary)

Name: Male Participation Rate Age Group 14-19

Mnemonic: DMPARTRATE14.19

Period: 1956-75

DMPARTRATE14.19

= + 28.97560
(3.96)

- 10.51070 (DR.PSNUEENROL + DR.UGRENROL.FT)
(6.35)

+ 5.16308 DUIDUMMY
(2.29)

+ 8.51399 DUMMY66
(2.74)

+ sum(i=0,2)b(i) $\ln((W(-i) / CPI(-i)) * (100 - ((GR.DT.P\$(-i) / PY\$(-i)) * 100)) / 100)$

+ sum(i=0,3)c(i) DURATE(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+ 58.03780	(1.61)	0.23194	(0.44)
1	+ 41.13460	(5.67)	-0.25221	(0.68)
2	+ 24.23140	(0.61)	-0.46480	(1.31)
3			-0.40583	(0.72)
sum	+123.4040	(5.67)	-0.89090	(0.98)
	(1,3,NONE)		(2,4,NONE)	

$\bar{R}^2 = 0.791$ SEE = 1.939 D.W. = 1.815

Equation No.: 96 (Primary)

Name: Male Participation Rate Age Group 20-24

Mnemonic: DMPARTRATE20.24

Period: 1954-75

DMPARTRATE20.24

$$\begin{aligned}
 &= + 93.64360 \\
 &\quad (46.97) \\
 &+ 13.20260 \quad \ln((W / CPI) * (100 - ((GR.DT.P\$ / PY\$) \\
 &\quad (1.68) \quad \quad * 100)) / 100) \\
 &- 2.09678 \quad (DR.PSNUENROL + DR.UGRENROL.FT) \\
 &\quad (3.35) \\
 &+ .77505 \quad DUIDUMMY \\
 &\quad (0.91) \\
 &+ .05663 \quad DURATE(-1) \\
 &\quad (0.30)
 \end{aligned}$$

$$\bar{R}^2 = .923 \quad SEE = .889 \quad D.W. = 1.029 \quad RHO = .460$$

Equation No.: 96 (Secondary)

Name: Male Participation Rate Age Group 20-24

Mnemonic: DMPARTRATE20.24

Period: 1954-75

DMPARTRATE20.24

= + 94.96570
(51.94)

- 3.02834 (DR.PSNUENROL + DR.UGRENROL.FT)
(5.79)

+ 1.25819 DUIDUMMY
(1.85)

- 0.15704 DURATE(-1)
(0.87)

+ sum(i=0,2)b(i) ln(W(-i) / CPI(-i)) * (100 - ((GR.DT.P\$(-i)
/ PY\$(-i)) * 100)) / 100)

i	b(i)	t(i)
0	-11.22570	(1.02)
1	+ 8.16354	(3.71)
2	+27.55270	(2.36)
sum	+24.49060	(3.71)

(1,3,NONE)

$\bar{R}^2 = 0.955$ SEE = 0.684 D.W. = 1.480 RHO = 0.257

Equation No.: 97

Name: Male Participation Rate Age Group 25-54

Mnemonic: DMPARTRATE25.54

Period: 1953-75

DMPARTRATE25.54

= + 98.06130
(207.23)

- 1.60062 $\ln((W / CPI) * (100 - ((GR.DT.P\$ / PY\$)$
(2.99) $* 100)) / 100)$

$\bar{R}^2 = .601$ SEE = .330 D.W. = .237 RHO = .825

Equation No.: 98

Name: Male Participation Rate Age Group 55+

Mnemonic: DMPARTRATE55+

Period: 1953-75

ln(DMPARTRATE55+)

= + 4.06131
(129.65)

+ 0.00127 DURATE
(0.47)

+ sum(i=0,2)b(i) (W(-i) / CPI(-i))

+ sum(i=0,2)c(i) (((GEPENC.TPE.BEN\$(-i) + GEPENQ.TPE.BEN\$(-i)
+ GEF.TPE.OAS\$(-i)) / CPI(-i)) / (DMPOP55.59(-i)
+ DMPOP60.64(-i) + DMPOP65+(-i)))

i	b(i)	t(i)	c(i)	t(i)
0	+0.10490	(1.84)	-0.08080	(2.95)
1	+0.01799	(2.08)	-0.07397	(5.50)
2	-0.06891	(1.07)	-0.06714	(2.35)
sum	+0.05398	(2.08)	-0.22190	(5.50)
	(1,3,NONE)		(1,3,NONE)	

$\bar{R}^2 = 0.958$

SEE = 0.011

D.W. = 1.116

Equation No.: 99 (Primary)

Name: Female Participation Rate Age Group 14-24

Mnemonic: DFPARTRATE14.24

Period: 1954-75

DFPARTRATE14.24

$$\begin{aligned}
 &= + 61.81310 \\
 &\quad (4.20) \\
 &- 1.96912 \quad (DR.PSNUENROL + DR.UGRENROL.FT) \\
 &\quad (1.53) \\
 &- 50.96620 \quad ((DFPOP00.04 + DMPOP00.04) / (DFPOP15.24 \\
 &\quad (2.39) \quad + DFPOP25.44 + DFPOP45.49)) \\
 &- .31084 \quad DURATE(-1) \\
 &\quad (0.82) \\
 &+ 24.97120 \quad \ln((W / CPI) * (100 - ((GR.DT.P\$ / PY\$) \\
 &\quad (1.63) \quad * 100)) / 100)
 \end{aligned}$$

$\bar{R}^2 = .800$ SEE = 1.957 D.W. = .620 RHO = .678

Equation No.: 99 (Secondary)

Name: Female Participation Rate Age Group 14-24

Mnemonic: DFPARTRATE14.24

Period: 1954-75

DFPARTRATE14.24

= + 70.29870
(5.12)

- 3.37139 (DR.PSNUENROL + DR.UGRENROL.FT)
(2.40)

- 62.61360 ((DFPOP00.04 + DMPPOP00.04) / (DFPOP15.24
(3.30) + DFPOP25.44 + DFPOP45.49))

- 0.38684 DURATE(-1)
(0.98)

+ sum(i=0,2)b(i) $\ln((W(-i) / CPI(-i)) * (100 - ((GR.DT.P\$(-i) / PY\$(-i)) * 100)) / 100)$

i	b(i)	t(i)
0	- 4.71565	(0.19)
1	+12.73860	(2.34)
2	+30.19280	(1.15)
sum	+38.21580	(2.34)
(1,3,NONE)		

$\bar{R}^2 = 0.849$ SEE = 1.702 D.W. = 0.874 RHO = 0.533

Equation No.: 100

Name: Female Participation Rate Age Group 25-44

Mnemonic: DFPARTRATE25.44

Period: 1956-75

DFPARTRATE25.44

= + 16.50570
(1.57)

- 21.2129 ((DFPOP00.04 + DMPOP00.04) / (DFPOP15.24
(1.56) + DFPOP25.44 + DFPOP45.49))

+ 29.23570 $\ln((W / CPI) * (100 - ((GR.DT.P\$$
(4.77) $/ PY\$) * 100)) / 100)$

+ sum(i=0,3)b(i) DURATE(-i)

i	b(i)	t(i)
0	+.075256	(0.47)
1	+.024292	(0.20)
2	+.081574	(0.65)
3	+.247102	(1.45)
sum	+.428223	(1.27)
(2,4,NONE)		

$\bar{R}^2 = .987$ SEE = .868 D.W. = .591 RHO = .715

Equation No.: 101 (Primary)

Name: Female Participation Rate Age Group 45+

Mnemonic: DFPARTRATE45+

Period: 1954-75

DFPARTRATE45+

= + 39.61340
(13.37)

- 39.98070 $1 / ((W / CPI) * (100 - ((GR.DT.P\$ / PY\$)$
(7.02) $* 100)) / 100)$

- .093599 DURATE(-1)
(0.68)

$\bar{R}^2 = .817$ $SEE = 1.918$ $D.W. = .087$ $RHO = .921$

Equation No.: 101 (Secondary)

Name: Female Participation Rate Age Group 45+

Mnemonic: DFPARTRATE45+

Period: 1954-75

DFPARTRATE45+

= + 40.40680
(14.23)

- 0.11270 DURATE(-1)
(0.83)

+ sum(i=0,2)b(i) 1 / ((W(-i) / CPI(-i)) * (100 - ((GR.DT.P\$(-i)
/ PY\$(-i)) * 100)) / 100)

i	b(i)	t(i)
0	-10.59580	(0.70)
1	-13.24760	(7.25)
2	-15.89940	(1.13)
sum	-39.74290	(7.25)
(1,3,NONE)		

$\bar{R}^2 = 0.852$ SEE = 1.721 D.W. = 0.097 RHO = 0.920

Equation No.: 109

Name: Labour Force Adjustment

Mnemonic: DLFADJ

Period: 1953-75

DLFADJ

= - 3440.44000
(1.26)

- .021430 DPOP
(3.75)

+ 36.97360 DMPARTRATE25.54
(1.36)

$\bar{R}^2 = 0.834$ SEE = 29.916 D.W. = 1.060 RHO = 0.460

Equation No.: 116

Name: Ratio of Deaths of Married Persons to Total Families in
Previous Period

Mnemonic: DR.DEATHS-MAR

Period: 1950-74

DR.DEATHS-MAR

= + 3.61101
(20.08)

+ sum(i=0,4)b(i) ln((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	+0.34612	(3.14)
1	-0.085255	(1.58)
2	-0.28374	(3.34)
3	-0.24932	(4.32)
4	+0.017981	(0.16)
sum	-0.25421	(11.04)

(2,5,NONE)

$\overline{R^2} = 0.869$

SEE = 0.018

D.W. = 1.329

Equation No.: 117

Name: Ratio of Elementary and Secondary School Enrolment to
Population 05-19

Mnemonic: DR.EL+SEC-ENROL

Period: 1954-75

DR.EL+SEC-ENROL

= + 28.05240
(1.42)

+ 4.57317 $\ln(\text{GNE} / \text{DPOP}) * 1000$
(1.46)

+ 0.22424 DR.EL+SEC-ENROL(-1)
(1.40)

$\bar{R}^2 = 0.676$ $\text{SEE} = 1.310$ $\text{D.W.} = 0.565$ $\text{RHO} = 0.681$

Equation No.: 118

Name: Graduate University Enrolment Full-Time

Mnemonic: DR.GUENROL.FT

Period: 1954-75

DR.GUENROL.FT

= + 8.43876
(8.73)

- 0.039031 DURATE(-1)
(0.90)

+ sum(i=0,3)b(i) 1 / ((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	+2535.56000	(0.72)
1	-2594.19000	(1.94)
2	-7723.93000	(5.57)
3	-12853.70000	(3.62)
sum	-20636.20000	(7.08)
(1,4,NONE)		

$\bar{R}^2 = 0.849$ SEE = 0.505 D.W. = 0.094 RHO = 0.917

Equation No.: 119

Name: Ratio of Part-Time Graduate Enrolment to Population 20-29

Mnemonic: DR.GUENROL.PT

Period: 1954-75

DR.GUENROL.PT

= + 5.32015
(10.71)

- 0.015960 DURATE(-1)
(0.42)

+ sum(i=0,3)b(i) 1 / ((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	-6539.14000	(2.13)
1	-4573.34000	(4.46)
2	-2607.55000	(2.29)
3	-641.75700	(0.20)

sum -14361.80000 (11.47)

(1,4,NONE)

$\bar{R}^2 = 0.952$

SEE = 0.191

D.W. = 0.590

RHO = 0.637

Equation No.: 120

Name: Ratio of Non-University Post-Secondary School Enrolment
to Population 15-24

Mnemonic: DR.PSNUENROL

Period: 1953-75

DR.PSNEUNROL

= + 8.69822
(10.82)

+ 0.072552 DURATE
(1.49)

+ sum(i=0,3)b(i) 1 / ((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	-6795.16000	(1.86)
1	-5748.01000	(4.38)
2	-4700.85000	(3.48)
3	-3653.70000	(0.99)

sum -20897.70000 (9.48)

(1,4,NONE)

$\bar{R}^2 = 0.940$

SEE = 0.333

D.W. = 0.248

RHO = 0.824

Equation No.: 121

Name: Ratio of Full-Time Undergraduate Enrolment to Population 15-24

Mnemonic: DR.UGRENROL.FT

Period: 1954-75

DR.UGRENROL.FT

= + 13.17440
(10.14)

- 0.033082 DURATE(-1)
(0.59)

+ sum(i=0,3)b(i) 1 / ((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	-2706.38000	(0.59)
1	-5245.11000	(2.99)
2	-7783.85000	(4.29)
3	-10322.60000	(2.23)

sum -26057.90000 (6.65)

(1,4,NONE)

$\bar{R}^2 = 0.806$

SEE = 0.744

D.W. = .077

RHO = .926

Equation No.: 122

Name: Ratio of Part-Time Undergraduate Enrolment to Population 20-29

Mnemonic: DR.UGRENROL.PT

Period: 1954-75

DR.UGRENROL.PT

= + 9.01950
(7.56)

- .026539 DURATE(-1)
(0.34)

+ sum(i=0,3)b(i) 1 / ((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	-3849.71000	(0.62)
1	-5017.54000	(2.35)
2	-6185.36000	(2.66)
3	-7353.19000	(1.15)

sum -22405.80000 (6.79)

(1,4,NONE)

$\bar{R}^2 = 0.908$

SEE = 0.431

D.W. = 0.458

RHO = 0.766

Equation No.: 125

Name: Ratio of Marriages to Population 14+

Mnemonic: DRATE.MAR

Period: 1953-75

DRATE.MAR

= + 0.36773
(2.70)

- 0.017666 DURATE
(3.23)

+ 0.045100 DRATE.DIVORC(-1)
(1.03)

+ 0.74518 DRATE.MAR(-1)
(6.49)

$\bar{R}^2 = 0.885$

SEE = 0.026

D.W. = 0.910

RHO = 0.508

Equation No.: 127

Name: Ratio of Non-family Households to Total Population of
14 Years and Over.

Mnemonic: DRATE.NFHO

Period: 1956-75

DRATE.NFHO

= - 0.41376
(18.10)

+ 0.000397 DURATE(-1)
(1.76)

+ sum(i=0,3)b(i) ln((GNE(-i) / DPOP(-i)) * 1000)

i	b(i)	t(i)
0	+0.01582	(2.77)
1	+0.02211	(5.48)
2	+0.01765	(4.77)
3	+0.00246	(0.38)

sum +0.05804 (20.58)

(2,4,NONE)

$\bar{R}^2 = 0.987$

SEE = 0.0013

D.W. = 0.235

RHO = 0.844

Equation No.: 149

Name: Consumer Expenditure - Recreation Sport and Camp Equipment

Mnemonic: CDE10

Period: 1954-75

CDE10 / DPOP

$$\begin{aligned}
&= - 0.014764 \\
&\quad (1.61) \\
&+ 0.854463 \quad (CDE10(-1) / DPOP(-1)) \\
&\quad (11.07) \\
&+ .01167 \quad (CPIP(-1) / DPOP(-1)) \\
&\quad (1.76) \\
&+ .032760 \quad ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1))) \\
&\quad (1.37) \\
&- .063702 \quad ((PFCDE10 / PFCPIP) - (PFCDE10(-1) / PFCPIP(-1))) \\
&\quad (1.12) \\
&+ .014354 \quad DUM710N \\
&\quad (3.83)
\end{aligned}$$

$\bar{R}^2 = .996$

SEE = .003

D.W. = 2.318

Equation No.: 150

Name: Consumer Expenditure - Furniture and Carpets

Mnemonic: CDH10

Period: 1954-75

CDH10 / DHOHO

= - .034436
(2.37)

+ .87574 (CDH10(-1) / DHOHO(-1))
(13.42)

+ .0042833 (CPIP(-1) / DHOHO(-1))
(2.00)

+ .032833 ((CPIP / DHOHO) - (CPIP(-1) / DHOHO(-1)))
(3.64)

+ .014986 DUM71ON
(3.50)

+ .655293 (RTC / DHOHO)
(2.65)

$\bar{R}^2 = 0.994$

SEE = .00360

D.W. = 1.519

Equation No.: 151

Name: Consumer Expenditure - Household Appliances

Mnemonic: CDH20

Period: 1954-75

CDH20 / DPOP

=	- .039669	
	(8.91)	
	+ .37451	(CDH20(-1) / DPOP(-1))
	(3.50)	
	+ .024989	(CPIP(-1) / DPOP(-1))
	(7.73)	
	+ .033023	((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
	(4.62)	
	- .042578	((PFCDH20 / PFCPIP) - (PFCDH20(-1) /
	(4.46)	PFCPIP(-1)))
	- .0073890	DUM710N
	(5.96)	
	+1.70667	(RSC / DPOP)
	(6.25)	

$\bar{R}^2 = .995$

SEE = .00085

D.W. = 1.346

Equation No.: 152

Name: Consumer Expenditure - New Passenger Cars

Mnemonic: CDT11

Period: 1954-75

CDT11 / DPOP

$$\begin{aligned}
 = & - .040010 \\
 & (1.81) \\
 & + .45620 \quad (CDT11(-1) / DPOP(-1)) \\
 & (2.24) \\
 & + .038116 \quad (CPIP(-1) / DPOP(-1)) \\
 & (2.02) \\
 & + .22311 \quad ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1))) \\
 & (4.40) \\
 & - .062343 \quad ((PFCDT11 / PFCPIP) - (PFCDT11(-1) / \\
 & (1.49) \quad PFCPIP(-1))) \\
 & - .000089314 \quad (C.SDLAI / DPOP) \\
 & (1.51) \\
 & - .013495 \quad DUM71ON \\
 & (1.63)
 \end{aligned}$$

$\bar{R}^2 = .971$

SEE = .00556

D.W. = 2.222

Equation No.: 153

Name: Consumer Expenditure - Used (Net) Automobiles

Mnemonic: CDT12

Period: 1954-75

CDT12 / DPOP

= - .0047238
(1.81)

+ .55893 (CDT12(-1) / DPOP(-1))
(3.59)

+ .0063644 (CPIP(-1) / DPOP(-1))
(2.30)

+ .048353 ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
(4.82)

- .010366 ((PFCDT12 / PFCPIP) - (PFCDT12(-1) /
(1.32) PFCPIP(-1)))

- .00001265 (C.SDLAI / DPOP)
(1.14)

- .0049271 DUM71ON
(2.96)

$\bar{R}^2 = .966$

SEE = .00104

D.W. = 1.890

Equation No.: 156

Name: Consumer Expenditure - Repair and Parts

Mnemonic: CDT20

Period: 1954-75

CDT20 / DPOP

=	+ .0063630	
	(1.36)	
	+ .640098	(CDT20(-1) / DPOP(-1))
	(5.57)	
	+ .016602	(CPIP(-1) / DPOP(-1))
	(4.47)	
	- .024723	(PFCDT20(-1) / PFCPIP(-1))
	(2.78)	
	- .079311	((PFCDT20 / PFCPIP) - (PFCDT20(-1) /
	(4.67)	PFCPIP(-1)))
	- .0036750	DUM710N
	(2.83)	

$\overline{R^2} = .985$

SEE = .00116

D.W. = 1.830

Equation No.: 159

Name: Consumer Expenditure - Men's and Boys' Clothing

Mnemonic: CHC10

Period: 1958-75

CHC10 / DPOP

$$\begin{aligned}
 = & + .112957 \\
 & (7.96) \\
 & + .016055 \quad (CPIP / DPOP) \\
 & (15.11) \\
 & - .096033 \quad (PFCHC10 / PFCPIP) \\
 & (7.74) \\
 & + \text{sum}(i=1,4)b(i) \quad ((CPIP(-i) / (DPOP(-i)) - (CPIP(-i-1) \\
 & \quad \quad \quad / DPOP(-i-1))) \\
 & + \text{sum}(i=1,4)c(i) \quad ((PFCHC10(-i) / (PFCPIP(-i)) - (PFCHC10(-i-1) \\
 & \quad \quad \quad / (PFCPIP(-i-1)))
 \end{aligned}$$

i	b(i)	t(i)	c(i)	t(i)
1	+.024595	(5.19)	+.046080	(3.27)
2	+.020632	(6.41)	+.050544	(4.72)
3	+.015212	(4.83)	+.044353	(3.21)
4	+.008334	(3.60)	+.027505	(2.54)
sum	+.068773	(6.41)	+.168481	(4.72)
	(2, 4, FAR)		(2, 4, FAR)	

$$\bar{R}^2 = .997 \quad \text{SEE} = .000574 \quad \text{D.W.} = 2.523$$

Equation No.: 160

Name: Consumer Expenditure - Women's, Girls', and Infants' Wear

Mnemonic: CHC20

Period: 1954-75

CHC20 / DPOP

=	+	.047875	
		(2.57)	
	+	.37585	(CHC20(-1) / DPOP(-1))
		(2.02)	
	+	.020637	(CPIP(-1) / DPOP(-1))
		(3.61)	
	+	.037669	((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
		(3.17)	
	-	.032362	(PFCHC20(-1) / PFCPIP(-1))
		(2.65)	
	-	.086006	((PFCHC20 / PFCPIP) - (PFCHC20(-1) /
		(4.23)	PFCPIP(-1)))
	-	.0047071	DUM710N
		(2.70)	

\bar{R}^2 = .994

SEE = .00119

D.W. = 2.218

Equation No.: 161

Name: Consumer Expenditure - Footwear and Repair

Mnemonic: CHC30

Period: 1956-75

CHC30 / DPOP

```
= + .038743
  (19.44)

  - .0047853      DUM710N
  (13.31)

  + .0088119      (CPIP / DPOP)
  (16.13)

  - .0048549      ((CPIP(-1) / DPOP(-1)) - (CPIP(-2) / DPOP(-2)))
  (2.04)

  - .026478      (PFCHC30 / PFCPIP)
  (9.24)

  + sum(i=1,2)b(i) ((PFCHC30(-i) / PFCPIP(-i)) - (PFCHC30(-i-1)
                    / PFCPIP(-i-1)))

i      b(i)      t(i)

1      +.012608   (2.33)
2      +.0063039  (2.33)

sum +.018912      (2.33)

      (1,2,FAR)
```

$\overline{R}^2 = .942$ SEE = .000331 D.W. = 2.242

Equation No.: 162

Name: Consumer Expenditure - Books, Newspapers, and Magazines

Mnemonic: CHE20

Period: 1954-75

CHE20 / DPOP

$$\begin{aligned}
&= + .015198 \\
&\quad (1.37) \\
&+ .83623 \quad (CHE20(-1) / DPOP(-1)) \\
&\quad (4.80) \\
&+ .015948 \quad ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1))) \\
&\quad (3.17) \\
&- .014627 \quad (PFCHE20(-1) / PFCPIP(-1)) \\
&\quad (1.38) \\
&+ .12709 \quad ((DUNVENROL + DPSNONUNVENROL) / DPOP) \\
&\quad (1.15) \\
&- .0012488 \quad DUM71ON \\
&\quad (1.31) \\
&- .043464 \quad ((PFCHE20 / PFCPIP) - (PFCHE20(-1) / PFCPIP(-1))) \\
&\quad (5.54)
\end{aligned}$$

$$\overline{R^2} = .973$$

$$SEE = .000612$$

$$D.W. = 1.741$$

Equation No.: 163

Name: Consumer Expenditure - Semi-durable Household Furnishings

Mnemonic: CHH30

Period: 1954-75

CHH30 / DPOP

= - .0012117
(0.30)

+ .87799 (CHH30(-1) / DPOP(-1))
(21.12)

+ .052264 ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
(5.55)

+ .0043552 DUM710N
(2.72)

+1.01265 (DMAR / DPOP)
(2.24)

- .020483 ((PFCHH30 / PFCPIP) - (PFCHH30(-1) /
(1.11) PFCPIP(-1)))

$\bar{R}^2 = .995$

SEE = .00106

D.W. = 2.702

Equation No.: 164

Name: Consumer Expenditure - Jewellery, Watches and Repairs

Mnemonic: CHP10

Period: 1954-75

CHP10 / DPOP

=	+	.012832	
		(3.10)	
	+	.75271	(CHP10(-1) / DPOP(-1))
		(8.05)	
	+	.0050645	(CPIP(-1) / DPOP(-1))
		(3.84)	
	+	.017005	((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
		(5.58)	
	-	.020676	(PFCHP10(-1) / PFCPIP(-1))
		(3.29)	
	-	.011518	((PFCHP10 / PFCPIP) - (PFCHP10(-1) / PFCPIP(-1)))
		(2.26)	
	-	.0018461	(DUM710N)
		(2.82)	

$\bar{R}^2 = .988$

SEE = .000320

D.W. = 1.555

Equation No.: 167

Name: Consumer Expenditure - Food and Non-alcoholic Beverages

Mnemonic: CNF10

Period: 1954-75

CNF10 / DPOP

$$\begin{aligned}
 &= + .18130 \\
 &\quad (2.91) \\
 &+ .52166 \quad (CNF10(-1) / DPOP(-1)) \\
 &\quad (2.89) \\
 &+ .026891 \quad (CPIP / DPOP) \\
 &\quad (2.70) \\
 &- .066356 \quad (PFCNF10(-1) / PFCPIP(-1)) \\
 &\quad (2.17) \\
 &- .23318 \quad ((PFCNF10 / PFCPIP) - (PFCNF10(-1) / PFCPIP(-1))) \\
 &\quad (5.46) \\
 &+ .019421 \quad DUM710N \\
 &\quad (4.06)
 \end{aligned}$$

$\bar{R}^2 = .984$

SEE = .00372

D.W. = 1.951

Equation No.: 168

Name: Consumer Expenditure - Alcoholic Beverages

Mnemonic: CNF20

Period: 1954-75

CNF20 / DPOP

= - 0.047780
(3.31)

+ 0.22456 (CNF20(-1) / DPOP(-1))
(1.26)

+ 0.029835 (CPIP(-1) / DPOP(-1))
(4.72)

+ 0.035686 ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
(5.73)

- 0.055603 ((PFCNF20 / PFCPIP) - (PFCNF20(-1) / PFCPIP(-1)))
(3.61)

+ 0.078208 ((C.DRPOP15.19R * (DMPOP15.19 + DFPOP15.19)
(2.96) + C.DRPOP20.24R * (DMPOP20.24 + DFPOP20.24)
+ DMPPOP25.54 + DMPPOP55+ + DFPOP25.44
+ DFPOP45+) / DPOP)

$\bar{R}^2 = 0.998$

SEE = 0.000940

D.W. = 1.706

Equation No.: 169

Name: Consumer Expenditure - Tobacco

Mnemonic: CNF30

Period: 1954-75

CNF30 / DPOP

= + .0049841
(2.42)

+ .93611 (CNF30(-1) / DPOP(-1))
(27.92)

- .029379 ((PFCNF30 / PFCPIP) - (PFCNF30(-1) / PFCPIP(-1)))
(3.21)

$\bar{R}^2 = .974$

SEE = .00109

D.W. = 2.410

Equation No.: 170

Name: Consumer Expenditure - Non-durables Household Supplies

Mnemonic: CNH40

Period: 1958-75

CNH40 / DPOP

= + .029664
(6.84)

+ .011305 (CPIP / DPOP)
(21.03)

- .025419 (PFCNH40 / PFCPIP)
(6.77)

+ sum(i=1,4)b(i) ((CPIP(-i) / DPOP(-i)) - (CPIP(-i-1)
/ DPOP(-i-1)))

i	b(i)	t(i)
1	+.011723	(5.12)
2	+.0087923	(5.12)
3	+.0058615	(5.12)
4	+.0029308	(5.12)

sum +.029308 (5.12)

(1,4,FAR)

$\bar{R}^2 = .997$

SEE = .000324

D.W. = 1.374

Equation No.: 171

Name: Consumer Expenditure - Drugs and Sundries

Mnemonic: CNM40

Period: 1954-75

CNM40 / DPOP

=	- .063612	
	(4.53)	
	+ .18815	(CNM40(-1) / DPOP(-1))
	(2.14)	
	+ .010054	((CPIP / DPOP) + (CPIP(-1) / DPOP(-1)))
	(9.26)	
	- .0075761	((PFCNM40 / PFCPIP) - (PFCNM40(-1) / PFCPIP(-1)))
	(1.71)	
	- .0010760	C.HAPORT
	(1.92)	
	+ .56259	((DFPOP65+ + DMPPOP65+) / DPOP)
	(2.90)	
	- .0044386	DUM71ON
	(6.17)	

$\overline{R}^2 = .998$

SEE = .000481

D.W. = 2.115

Equation No.: 172

Name: Consumer Expenditure - Toilet Articles and Cosmetics

Mnemonic: CNP20

Period: 1954-75

CNP20 / DPOP

=	+	.00024504	
		(0.0989)	
	+	.634179	(CNP20(-1) / DPOP(-1))
		(4.40)	
	+	.0056791	(CPIP(1) / DPOP(-1))
		(2.75)	
	+	.014047	((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
		(4.24)	
	-	.0057584	(PFCNP20(-1) / PFCPIP(-1))
		(1.41)	
	-	.032133	((PFCNP20 / PFCPIP) - (PFCNP20(-1) / PFCPIP(-1)))
		(6.19)	
	-	.0011806	DUM710N
		(2.24)	

$\bar{R}^2 = .996$

SEE = .000375

D.W. = 2.399

Equation No.: 173

Name: Consumer Expenditure - Electricity

Mnemonic: CNR40

Period: 1954-75

CNR40 / DPOP

= - .0016072
(2.63)

+ .87354 (CNR40(-1) / DPOP(-1))
(17.68)

+ .0031421 (CPIP / DPOP)
(3.40)

- .0096130 ((PFCNR40 / PFCPIP) - (PFCNR40(-1) / PFCPIP(-1)))
(2.58)

$\overline{R}^2 = .998$

SEE = .000361

D.W. = 2.182

Equation No.: 174

Name: Consumer Expenditure - Gas

Mnemonic: CNR50

Period: 1954-75

CNR50 / DHOHO

=	+ .025108	
	(2.57)	
	+ .54937	(CNR50(-1) / DHOHO(-1))
	(6.07)	
	+ .0057640	((CPIP / DHOHO) - (CPIP(-1) / DHOHO(-1)))
	(2.14)	
	- .014465	(PFCNR50(-1) / PFCPIP(-1))
	(2.09)	
	+ .0096935	C.DPPL
	(4.28)	
	- .0029873	DUM710N
	(1.80)	

$\bar{R}^2 = .993$

SEE = .000994

D.W. = 2.734

Equation No.: 175

Name: Consumer Expenditure - Other Fuels

Mnemonic: CNR60

Period: 1953-75

CNR60 / DHOHO

= - .120694
(1.96)

+ .018016 (CPIP / DHOHO)
(4.50)

- .069537 (PFCNR60 / PFCPIP)
(9.33)

+ .115017 (RSST / RMST)
(6.35)

$\bar{R}^2 = .851$

SEE = .00408

D.W. = 2.294

Equation No.: 176

Name: Consumer Expenditure - Gasoline, Oil and Grease

Mnemonic: CNT30

Period: 1954-75

CNT30 / DPOP

= + .040787
(3.79)

+ .44059 (CNT30(-1) / DPOP(-1))
(3.50)

+ .014867 (CPIP / DPOP)
(2.99)

- .038057 (PFCNT30 / PFCPIP)
(4.23)

+ .0061713 DUM71ON
(4.15)

$\bar{R}^2 = .993$

SEE = .00146

D.W. = 1.924

Equation No.: 179

Name: Consumer Expenditure - Travel Expenditure Services

Mnemonic: CSA11

Period: 1954-75

CSA11 / DPOP

= - .041117
(4.13)

+ .29869 (CSA11(-1) / DPOP(-1))
(1.74)

+ .034217 (CPIP / DPOP)
(5.23)

+ .000030361 (C.DUTFREE / PFCPIP)
(3.64)

- .0087270 DUM71ON
(2.96)

- .0051391 DUM67
(1.93)

$\bar{R}^2 = .956$

SEE = .00246

D.W. = 2.064

Equation No.: 2708

Name: Armed Forces

Mnemonic: C.ARFORC

Period: 1956-76

$\ln(C.ARFORC)$

= - 3.26157
(8.57)

+ 1.09672 $\ln(GEF.CGS.DCWS + GEF.CGS.DMP)$
(20.73)

$\bar{R}^2 = .987$

SEE = .019

D.W. = .683

RHO = .663

Equation No.: 180

Name: Consumer Expenditure - Military Pay and Allowances Abroad

Mnemonic: CSA12

Period: 1954-76

CSA12 / C.AFAB

= + 1.41751
(2.51)

+ .71073 (CSA12(-1) / C.AFAB(-1) * ((GEF.CGS.DMP /
(5.82) C.ARFORC) / (GEF.CGS.DMP(-1) / C.ARFORC(-1))))

$\bar{R}^2 = .599$

SEE = .754

D.W. = 2.218

Equation No.: 182

Name: Consumer Expenditure - Tourist Receipts

Mnemonic: CSA14

Period: 1953-75

CSA14

= + 458.935
(1.32)

+ 1.73869 (ZUSCE * REXCAN)
(10.59)

- 541.427 ((PFC * 100) / ZUSPDCE * REXCAN)
(2.03)

+ 61.4936 DUM69ON
(1.44)

+ 504.982 DUM67
(10.88)

$\bar{R}^2 = 0.984$

SEE = 41.257

D.W. = 2.355

Equation No.: 185

Name: Consumer Expenditure - Recreational Services

Mnemonic: CSE30

Period: 1954-75

CSE30 / DPOP

= + .0057159
(1.40)

+ .26487 (CSE30(-1) / DPOP(-1))
(2.62)

+ .026160 (CPIP / DPOP)
(8.87)

- .024913 (PFCSE30 / PFCPIP)
(2.94)

- .015386 C.TVHH
(3.63)

+ .0065065 DUM67
(6.91)

$\bar{R}^2 = .992$

SEE = .000903

D.W. = 2.352

Equation No.: 186

Name: Consumer Expenditure - Education and Cultural Services

Mnemonic: CSE40

Period: 1959-75

CSE40 / (1.0 * DUGRENROL.FT + 0.33 * DUGRENROL.PT + 2.0
* DGR.UNVENROL.FT + 0.8 * DGR.UNVENROL.PT)

= + 4.19768
(11.15)

- 1.46121 (PFCSE40 / PFCPIP)
(3.69)

- .0349325 (((1.0 * DUGRENROL.FT + 0.33 * DUGRENROL.PT
(4.31) + 2.0 * DGR.UNVENROL.FT + 0.8
* DGR.UNVENROL.PT) - (1.0
* DUGRENROL.FT(-1) + 0.33 * DUGRENROL.PT(-1)
+ 2.0 * DGR.UNVENROL.FT(-1) + 0.8
* DGR.UNVENROL.PT(-1))) / (1.0
* DUGRENROL.FT(-1) + 0.33 * DUGRENROL.PT(-1)
+ 2.0 * DGR.UNVENROL.FT(-1) + 0.8
* DGR.UNVENROL.PT(-1))) * 100)

+ 9.62723 ((GDP\$(-2) + GDL\$(-2) + GSPENC\$(-2)
(1.22) * GSPENQ\$(-2) + GDH\$(-2)) / GNE\$(-2))

$\bar{R}^2 = 0.641$

SEE = 0.0958

D.W. = 1.450

Equation No.: 188

Name: Consumer Expenditure - Domestic Services

Mnemonic: CSH60

Period: 1958-75

CSH60 / DHOHO

= - 0.0094101
(0.51)

- 0.0029661 (CPIP / DHOHO)
(2.05)

+ 0.011750 ((DMPOP00.04 + DMPPOP05.09 + DFPOP00.04
(1.38) + DFPOP05.09) / DHOHO)

+ 0.078153 (PFCSH60 / PFCPIP)
(2.55)

+ sum(i=1,4)b(i) (((DMPOP00.04(-i) + DMPPOP05.09(-i)
+ DFPOP00.04(-i) + DFPOP05.09(-i)) / DHOHO(-i))
- ((DMPOP00.04(-i-1) + DMPPOP05.09(-i-1) +
(DFPOP00.04(-i-1) + DFPOP05.09(-i-1)) /
DHOHO(-i-1)))

i	b(i)	t(i)
1	-0.0066677	(0.27)
2	+0.038071	(2.89)
3	+0.054095	(2.30)
4	+0.041404	(2.08)
sum	+0.126902	(2.89)
	(2, 4, FAR)	

$\bar{R}^2 = 0.983$

SEE = 0.000668

D.W. = 2.138

Equation No.: 189

Name: Consumer Expenditure - Other Household Services

Mnemonic: CSH70

Period: 1958-75

CSH70 / DHOHO

= - 0.072252
(2.39)

+ 0.0058696 (CPIP / DHOHO)
(2.71)

+ 0.029482 (RSST / RMST)
(3.60)

+ sum(i=1,4)b(i) ((PFCSH70(-i) / PFCPIP(-i)) - (PFCSH70(-i-1)
/ PFCPIP(-i-1)))

i	b(i)	t(i)
1	-0.010306	(0.69)
2	-0.033005	(2.43)
3	-0.038854	(2.71)
4	-0.027852	(2.71)

sum -0.110017 (2.43)

(2, 4, FAR)

$\bar{R}^2 = 0.754$

SEE = 0.00136

D.W. = 1.403

Equation No.: 190 (Primary)

Name: Consumer Expenditure - Doctors, Private and Government

Mnemonic: CSM19

Period: 1956-75

CSM19 / DPOP

$$-0.022442$$

 (10.61)

+ 0.028378 (CPIP / DPOP)
(25.16)

- 0.0061878 DUM69
(8.20)

+ 0.0072874 DUM710N
(0.59)

- 0.0032194 ((CPIP / DPOP) * DUM710N)
(0.62)

$$+ \sum_{i=0,3} b(i) \quad C.MEPORT(-i)$$

i	b(i)	t(i)
---	------	------

0 +0.010858 (8.98)

1 +0.00049077 (0.43)

2 -0.0047747 (2.75)

3 -0.0049383 (3.57)

sum +0.0016359 (0.43)

(2, 4, FAR)

$$\overline{R}^2 = 0.998$$

SEE = 0.000647

$$D.W. = 1.684$$

Equation No.: 190 (Secondary)

Name: Consumer Plus Government Expenditure - Doctors

Mnemonic: CSM19

Period: 1956-75

CSM19 / DPOP

```
= - 0.022312
   (3.25)

+ 0.028399      ((CPIP * CR.CSM19) / DPOP)
   (7.68)

- 0.0086748     DUM69
   (4.24)

+ 4.63410       (((1.0 - CR.CSM19(-1)) * GR$(-1))
   (5.09)        / (PFGNE(-1) * DPOP(-1)))

- 1.42269       (((1.0 - CR.CSM19(-1)) * GR$(-1))
   (4.86)        / (PFGNE(-1) * DPOP(-1))) * DUM71ON(-1))

- 0.022613     DUM71ON
   (6.09)

+ sum(i=0,3)b(i) C.MEPORT(-i)
```

i	b(i)	t(i)
0	+0.039235	(6.02)
1	+0.014192	(3.14)
2	-0.000695	(0.16)
3	-0.005425	(1.69)
sum	+0.047307	(3.14)
	(2,4,FAR)	

$\bar{R}^2 = 0.984$

SEE = 0.00163

D.W. = 1.872

Equation No.: 194

Name: Consumer Expenditure - Dentists (Gross Fees)

Mnemonic: CSM12

Period: 1958-75

CSM12 / DPOP

$$\begin{aligned}
&= + .0028533 \\
&\quad (8.25) \\
&\quad + .0047788 \quad (CPIP / DPOP) \\
&\quad (21.74) \\
&\quad + \text{sum}(i=1,4)b(i) \quad ((CPIP(-i) / DPOP(-i)) - (CPIP(-i-1) / DPOP(-i-1)))
\end{aligned}$$

i	b(i)	t(i)
1	-.0030150	(2.61)
2	-.0049399	(6.47)
3	-.0050791	(7.20)
4	-.0034324	(6.70)
sum	-.016466	(6.47)
	(2, 4, FAR)	

$\bar{R}^2 = .991$

SEE = .000144

D.W. = 1.769

Equation No.: 195

Name: Consumer Expenditure - Other Practitioners (Gross Fees)

Mnemonic: CSM13

Period: 1958-75

CSM13 / DPOP

= - 0.018300
(2.45)

- 0.0067615 (PFCSM13 / PFCPIP)
(3.93)

+ 0.41663 ((DFPOP65+ + DMPOP65+) / DPOP)
(4.24)

+ 0.0011859 C.HAPORT
(4.65)

- 0.0021415 C.MEPORT
(4.91)

+ 0.0020147 DUM71ON
(7.50)

+ sum(i=1,4)b(i) ((PFCSM13(i) / PFCPIP(-i)) - (PFCSM13(-i-1)
/ PFCPIP(-i-1)))

i	b(i)	t(i)
1	-0.015183	(2.68)
2	-0.025114	(4.97)
3	-0.025894	(4.24)
4	-0.017523	(3.78)
sum	-0.083714	(4.97)
	(2, 4, FAR)	

$\overline{R^2} = 0.993$ SEE = 0.000150 D.W. = 2.601

Equation No.: 198 (Primary)

Name: Consumer Expenditure - Hospitals, Private and Government

Mnemonic: CSM29

Period: 1953-75

CSM29 / DPOP

=	-	0.37984	
		(2.61)	
	+	52.7689	(C.HOSBED / DPOP)
		(3.74)	
	+	0.060797	(CPIP / DPOP)
		(2.73)	
	-	0.13346	(PFCSM29 / PFCPIP)
		(3.06)	
	+	0.26845	DUM71ON
		(1.06)	
	-	42.8652	(C.HOSBED / DPOP * DUM71ON)
		(1.07)	
	+	1.86284	((DFPOP65+ + DMPOP65+) / DPOP)
		(1.15)	

$\bar{R}^2 = 0.974$

SEE = 0.00495

D.W. = 1.515

Equation No.: 198 (Secondary)

Name: Consumer Plus Government Expenditure - Hospitals

Mnemonic: CSM29

Period: 1953-76

CSM29 / C.HOSBED

= + 31.76420
(18.39)

- 0.12619 1 / (GR\$(-1) / (PFGNE(-1) * DPOP(-1)))
(17.03)

+ 2.45159 C.HAPORT
(7.94)

- 6.20875 (PFCSM29 / PFCPIP)
(6.01)

$\overline{R}^2 = 0.991$

SEE = 0.39539

D.W. = 1.514

Equation No.: 202

Name: Consumer Expenditure - Other Medical Care Expenses

Mnemonic: CSM30

Period: 1953-75

CSM30 / DPOP

= - 0.0011632
(0.93)

+ 0.0024592 (CPIP / DPOP)
(3.61)

+ 0.0040382 ((CPIP / DPOP) * DUM71ON)
(2.74)

- 0.0033023 C.MEPORT
(3.35)

- 0.0075685 DUM71ON
(1.82)

$\bar{R}^2 = 0.858$

SEE = 0.000551

D.W. = 1.619

Equation No.: 203

Name: Consumer Expenditure - Personal Care

Mnemonic: CSP30

Period: 1954-75

CSP30 / DPOP

= + .0030744
(3.62)

+ .50793 (CSP30(-1) / DPOP(-1))
(9.47)

+ .0040870 (CPIP(-1) / DPOP(-1))
(9.73)

- .0049433 DUM71ON
(10.71)

+ .0083383 ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
(2.96)

$\bar{R}^2 = .967$

SEE = .000338

D.W. = 1.844

Equation No.: 204

Name: Consumer Expenditure - Expenditure on Restaurants and Hotels

Mnemonic: CSP40

Period: 1954-75

CSP40 / DPOP

= + .12029
(12.82)

+ .14923 (CSP40(-1) / DPOP(-1))
(2.57)

+ .079983 (CPIP / DPOP)
(9.29)

- .19687 (PFCSP40 / PFCPIP)
(7.17)

+ .0051690 DUM67
(3.26)

+ .016064 DUM71ON
(10.37)

$\bar{R}^2 = .995$

SEE = .00147

D.W. = 1.413

Equation No.: 205

Name: Consumer Expenditure - Financial, Legal and Other Services

Mnemonic: CSP50

Period: 1954-75

CSP50 / DPOP

=	+ .0021480	
	(0.46)	
	+ .86965	(CSP50(-1) / DPOP(-1))
	(8.83)	
	+ .0067714	(CPIP(-1) / DPOP(-1))
	(1.69)	
	+ .066997	((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
	(3.95)	
	- .11134	((PFCSP50 / PFCPIP) - (PFCSP50(-1) / PFCPIP(-1)))
	(7.82)	
	- .0074514	DUM710N
	(3.10)	

$\bar{R}^2 = .981$

SEE = .00205

D.W. = 1.771

Equation No.: 206

Name: Consumer Expenditure - Op. Exp. of Nonprofit Org.

Mnemonic: CSP60

Period: 1956-75

CSP60 / DPOP

= + .00091019
(0.60)

+ .013495 (CPIP / DPOP)
(16.23)

+ .00039886 (C.FEDEL * (PDY\$ / PFCPIP / DPOP))
(3.14)

+ .012178 DUM71ON
(18.56)

+ sum(i=1,2)b(i) ((CPIP(-i) / (DPOP(-i)) - (CPIP(-i-1)
/ DPOP(-i-1)))

i	b(i)	t(i)
1	+.0050209	(1.22)
2	+.0025104	(1.22)
sum	+.0075313	(1.22)
	(1,2,FAR)	

$\bar{R}^2 = .996$ SEE = .000658 D.W. = 1.214

Equation No.: 207

Name: Consumer Expenditure - Gross Imputed Rent

Mnemonic: CSR10

Period: 1954-76

CSR10 / RSST

= + 0.017775
(0.86)

+ 1.02719 (CSR10(-1) / RSST(-1))
(53.84)

- 0.026730 DUM71ON
(0.05)

- 0.014487 (CSR10(-1) / RSST(-1) * DUM71ON)
(0.04)

$\bar{R}^2 = 0.996$

SEE = 0.017074

D.W. = 2.390

Equation No.: 208

Name: Consumer Expenditure - Gross Paid Rent

Mnemonic: CSR20

Period: 1954-76

CSR20 / RMST

= + 0.0075605
(0.35)

+ 1.02089 (CSR20(-1) / RMST(-1))
(41.83)

+ 0.46924 DUM710N
(0.95)

- 0.460894 (CSR20(-1) / RMST(-1) * DUM710N)
(1.02)

$\bar{R}^2 = 0.992$

SEE = 0.0129

D.W. = 2.185

Equation No.: 209

Name: Consumer Expenditure - Other Lodging

Mnemonic: CSR30

Period: 1954-75

CSR30 / DPOP

= - 0.0000039426
(0.011)

+ 0.88165 (CSR30(-1) / DPOP(-1))
(14.55)

+ 0.0026539 ((CPIP / DPOP) - (CPIP(-1) / DPOP(-1)))
(1.87)

- 0.0049901 ((PFCSR30 / PFCPIP) - (PFCSR30(-1) / PFCPIP(-1)))
(2.45)

+ 0.044483 ((DUGRENROL.FT + DGR.UNVENROL.FT) / DPOP)
(5.03)

- 0.00033901 DUM710N
(1.79)

$\bar{R}^2 = 0.959$

SEE = 0.000166

D.W. = 1.922

Equation No.: 2702

Name: Registrations of Passenger Automobiles

Mnemonic: C.RPV

Period: 1954-75

C.RPV

= + 162.801
(2.38)

+ 0.96605 C.RPV(-1)
(25.95)

+ 0.169077 CDT11
(2.22)

$\bar{R}^2 = .998$

SEE = 70.091

D.W. = 1.979

Equation No.: 210

Name: Consumer Expenditure - Other Auto Related Services

Mnemonic: CST40

Period: 1959-75

CST40 / DPOP

= - 0.013119
(4.02)

+ 0.78369 (CST40(-1) / DPOP(-1))
(3.69)

- 0.51902 (CST40(-2) / DPOP(-2))
(2.28)

+ 0.0986801 (C.RPV / DPOP)
(3.81)

+ sum(i=1,5)b(i) ((C.RPV(-i) / DPOP(-i)) - (C.RPV(-i-1)
/ DPOP(-i-1)))

i	b(i)	t(i)
1	-0.14959	(2.10)
2	-0.014882	(0.31)
3	+0.067429	(0.98)
4	+0.097347	(1.32)
5	+0.074870	(1.46)

sum +0.075176 (0.34)

(2,5,FAR)

$\bar{R}^2 = 0.979$

SEE = 0.000926

D.W. = 1.974

Equation No.: 211

Name: Consumer Expenditure - Purchased Transportation

Mnemonic: CST50

Period: 1954-75

CST50 / DPOP

= + .012432
(2.18)

+ .298742 (CST50(-1) / DPOP(-1))
(2.75)

+ .043937 (CPIP / DPOP)
(5.88)

- .016361 (PFCST50 / PFCPIP)
(1.84)

- .220572 (C.RPV / DPOP)
(4.39)

+ .00348632 DUM67
(3.15)

$\overline{R}^2 = .977$

SEE = .00104

D.W. = 2.610

Equation No.: 212

Name: Consumer Expenditure - Communications

Mnemonic: CST60

Period: 1954-75

CST60 / DPOP

= + .013628
(2.47)

+ .53913 (CST60(-1) / DPOP(-1))
(3.87)

+ .0095015 (CPIP / DPOP)
(3.61)

- .018103 (PFCST60 / PFCPIP)
(3.85)

$\bar{R}^2 = .998$

SEE = .000469

D.W. = 1.813

BUSINESS FIXED INVESTMENT IN CONSTRUCTION

Business fixed investment spending in construction is disaggregated by purchasing industry. Aggregation provides a total which feeds to the GNE identity. The estimates of disaggregated investment by purchasing industry influence production levels via final demand conversion. The level of disaggregation recorded in Table 1 indicates the breakdown of investment by purchasing industry which is available in CANDIDE Model 2.0. The breakdown in Table 1 includes not only the commercial sector but also the noncommercial sector. The breakdown for business fixed investment spending on construction by definition excludes the imputed item - owner occupied dwellings (industry 34). Since we are dealing in this section with the private sector only, the investment categories discussed in this section also exclude industries 39 through 48 (non commercial plus public administration). The determination of investment for industries 39 through 44 (the public sector) is discussed in the section on government investment. In total there are 38 stochastic equations associated with private nonresidential investment in construction, 37 associated with industries 1 through 38 (excluding 34) and 1 associated with real estate commissions

The specification of the investment functions associated with business fixed capital formation in

construction is derived from neoclassical investment theory
assuming profit maximization. The major determinants of investment include: (1) industry specific real output, (2) the industry specific price level, (3) the industry specific user cost of capital, and (4) the industry specific capital stock. Careful attention is paid to the dynamic response of investment spending to these important factors.

Real output (production levels) is generated on the production side of the model with detail as indicated in Table 1. There is a production variable associated with each purchasing industry. The production influence in the construction investment equations can be regarded as representing a scale or accelerator effect. Another important influence in the investment decision is the comparison between the price of goods produced with new investment capital and the acquisition costs of new investment capital. The ratio of industry specific price to the industry specific user cost of capital is the route through which this profitability concept is introduced into the investment equations. In order to make a comparison between the price of goods produced with new capital versus the acquisition cost of new capital, we value these two concepts at the same point in time. The user cost of capital is a concept which permits us to compare the cost

of using capital at a point in time even though we know the services of capital will be rendered over the life of the asset.

In CANDIDE Model 2.0, we have developed a highly detailed disaggregated set of industry specific user cost of capital variables. The exact derivation of the variables and the major policy handles which influence them will be discussed in the section on User Cost.

There are certain differences between Construction Division estimates and National Accounts estimates of investment activity. The greatest difference is due to real estate commissions. They are excluded from the Construction Division estimates, but included in the National Accounts estimates. Real estate commissions are modelled as a rate-base calculation, where the rate is exogenous and the base is the current dollar value of construction capital stock.

The estimation technique used to develop the investment equations permits us to disentangle from the data the lagged response of new investment to output, sector price, and the user cost of capital. Because of the decision, order, production, delivery, and start up lags associated with the investment decision, we would expect not

only the current level of output, industry prices, and the cost of using capital to influence the investment decision but also past movements in these series to have important influences. To account for disequilibrium effects associated with replacement investment, we have also introduced industry specific lagged capital stock as a right hand side variable in the investment equations. This permits a further refinement of the explanation of replacement investment provided by the strict neoclassical theory of investment.

In summary, business fixed investment spending in construction provides inputs to the GNE identity and also influences production levels via the input-output route. For this reason, it has been disaggregated by purchasing industry. The major influences include output, sector price, user cost, and capital stock. These explanatory variables are all industry specific. Estimation techniques have been used to help ferret out the important dynamic response which results from the decision, order, production, delivery, and start up lags associated with the investment process.

VARIABLES DETERMINED OUTSIDE THE BUSINESS FIXED INVESTMENT - CONSTRUCTION BLOCK

CAP STK AGRIC FISH & TRAP INDST - BLDG & ENG CONST
 CAP STK CONSTRUCTION INDST - BLDG & ENG CONSTRUCTION
 CAP STK COMMERCIAL INDST - BLDG & ENG CONST
 CAP STK FIN INS & REAL ESTATE INDST - BLDG & ENG CONST
 CAP STK FORESTRY INDST - BLDG & ENG CONST
 CAP STK MANUFACTURING TOTAL - BLDG & ENG CONST
 CAP STK WOOD INDST - BLDG & ENG CONST
 CAP STK FURN & FIXT INDST - BLDG & ENG CONST
 CAP STK IRON & STEEL INDST - BLDG & ENG CONST
 CAP STK NONFERROUS METALS - BLDG & ENG CONST
 CAP STK METAL FAB INDST - BLDG & ENG CONST
 CAP STK MACH (EXCL ELEC MACH) INDST - BLDG & ENG CONST
 CAP STK NONAUTO TRANSPORT EQUIP - BLDG & ENG CONST
 CAP STK MOTOR VEHICLES (EXCL PARTS) BLDG & ENG CONST
 CAP STK MOTOR VEHICLE PARTS & ACC BLDG & ENG CONST
 CAP STK ELECTRICAL PROD INDST - BLDG & ENG CONST
 CAP STK NONMETAL MIN PROD INDST - BLDG & ENG CONST
 CAP STK FOOD & BEV INDST - BLDG & ENG CONST
 CAP STK TOBACCO PROD INDST - BLDG & ENG CONST
 CAP STK RUBBER & PLASTIC PROD INDST - BLDG & ENG CONST
 CAP STK TEXTILE INDST - BLDG & ENG CONST
 CAP STK KNITTING & CLOTHING INDST - BLDG & CONST
 CAP STK PAPER & ALLIED INDST - BLDG & ENG CONST
 CAP STK PRINT, PUB & ALLIED INDST - BLDG & ENG CONST
 CAP STK PET & COAL PROD INDST - BLDG & ENG CONST
 CAP STK CHEM & CHEM PROD INDST - BLDG & ENG CONST
 CAP STK MISC MANUF INDST - BLDG & ENG CONST
 CAP STK MINING TOTAL - BLDG & ENG CONST
 CAP STK COAL MINING INDST - BLDG & ENG CONST
 CAP STK METAL MINING INDST - BLDG & ENG CONST
 CAP STK NONMETAL MINING (EXCL COAL) - BLDG & ENG CONST
 CAP STK CRD PET NAT.GAS&SERV INC - BLDG & ENG CONST
 CAP STK COMMERCIAL SVCS - BLDG CON
 CAP STK COLLEGE & UNIV EDUC - BLDG CON
 CAP STK OTHER NONCOMMERCIAL SVCS INDST - BLDG CON
 CAP STK WHOLESALE & RETAIL TRADE INDST - BLDG CON
 CAP STK TRANSPORT INDST - BLDG & ENG CONST
 CAP STK UTILITY INDST - BLDG CON
 USER COST AGRIC.FISH & TRAP INDST - BLDG & ENG CONST
 USER COST CONSTRUCTION INDST - BLDG & ENG CONST
 USER COST COMMERCIAL INDST - BLDG & ENG CONST
 USER COST FIN INS & REAL ESTATE INDST - BLDG CON
 USER COST FORESTRY INDST - BLDG & ENG CONST
 USER COST WOOD INDST - BLDG & ENG CONST
 USER COST FURN & FIX INDST - BLDG CON
 USER COST IRON & STEEL INDST - BLDG CON
 USER COST NONFERROUS METALS - BLDG & ENG CONST
 USER COST METAL FAB INDST - BLDG CON
 USER COST MACH (EX ELEC MACH) INDST - BLDG & ENG CONST
 USER COST NONAUTO TRANSPORT EQUIP - BLDG & ENG CONST
 USER COST MOTOR VEHICLE (EX PARTS & ACC) - BLDG CON
 USER COST MOTOR VEHICLE PARTS & ACC - BLDG & ENG CONST

IKAGFTC
 IKCNSTC
 IKCOMMC543.8
 IKFIREC701.37
 IKFSTYC31.9
 IKMFC
 IKMFDC251.9
 IKMFDC261.8
 IKMFDC291.4
 IKMFDC295.8
 IKMFDC301.9
 IKMFDC311.8
 IKMFDC321+326.9
 IKMFDC323.4
 IKMFDC325
 IKMFDC331.9
 IKMFDC351.9
 IKMFDC101.9
 IKMFDC151.3
 IKMFDC162.5
 IKMFDC181.9
 IKMFDC231.49
 IKMFDC271.4
 IKMFDC286.9
 IKMFDC365.9
 IKMFDC372.9
 IKMFDC391.9
 IKMFC
 IKMICLC61
 IKMINMC51.9
 IKMINMC71.87
 IKMPC64+96.9
 IKSVCMC
 IKSVHGDC806
 IKSVNCC
 IKTRADC602.99
 IKTRSPC01.27
 IKUTILC572.9
 IUCAGFTC
 IUCCNSTC
 IUCCOMMC543.8
 IUCFIREC701.37
 IUCFSTYC31.9
 IUCMFDC251.9
 IUCMFDC261.8
 IUCMFDC291.4
 IUCMFDC295.8
 IUCMFDC301.9
 IUCMFDC311.8
 IUCMFDC321+26.9
 IUCMFDC323.4
 IUCMFDC325

USER COST ELECTRICAL PROD INDST - BLDG & ENG CONST IUCMFDC331.9
USER COST NONMETAL MIN PROD INDST - BLDG & ENG CONST IUCMFDC351.9
USER COST FOOD & BEV INDST - BLDG & ENG CONST IUCMFNDQ181.9
USER COST TOBACCO PROD INDST - BLDG & ENG CONST IUCMFNDQ151.9
USER COST LEATHER INDST - BLDG & ENG CONST IUCMFNDQ172.9
USER COST TEXTILE INDST - BLDG & ENG CONST IUCMFNDQ181.9
USER COST KNOTTING & CLOTHING INDST - BLDG CON IUCMFNDQ231.49
USER COST PAPER & ALLIED INDST - BLDG & ENG CONST IUCMFNDQ271.4
USER COST PRINT, PUB & ALLIED INDST - BLDG & ENG CONST IUCMFNDQ286.9
USER COST PET & COAL PROD INDST - BLDG & ENG CONST IUCMFNDQ365.9
USER COST CHEM & CHEM PROD INDST - BLDG & ENG CONST IUCMFNDQ372.9
USER COST MISC MANUF INDST - BLDG CON IUCMFNDQ391.9
USER COST COAL MINING INDST - BLDG & ENG CONST IUCMCLQ61
USER COST METAL MINING INDST - BLDG & ENG CONST IUCMIMQ51.9
USER COST NONMETAL MINING (EX COAL) - BLDG & ENG CONST IUCMINMQ71.87
USER COST CRD PET NATL GAS&SERV - BLDG & ENG CONST IUCMPC54+96.9
USER COST COMMERCIAL SVCS INDST - BLDG CON IUCSYCMC
USER COST COLLEGE & UNIV EDUC - BLDG CON IUCSVHGD806
USER COST OTHER NONCOMMER SVCS INDST - BLDG CON IUCTRADQ602.99
USER COST WHOLESALE & RETAIL TRADE INDST - BLDG CON IUCTRSPQ81.27
USER COST TRANSPORT INDST - BLDG & ENG CONST IUCUTRLCS72.9
SECT DEFATOR UTILITY INDST - BLDG CON PXAGFT1.21+44.9
SECT DEFATOR AGRICULTURE, FISH&TRAP INDST PXNST444.21
SECT DEFATOR CONSTRUCTION INDST PXCOMH543.48
SECT DEFATOR FIN INS & REAL ESTATE INDST PXFIRE701.37
SECT DEFATOR FORESTRY INDST PXESTY319
SECT DEFATOR FURNITURE & PICTURE INDST PXMFDR21.59
SECT DEFATOR IRON & STEEL INDST PXMFDR21.68
SECT DEFATOR NONFERROUS METAL INDST PXMFDR291.94
SECT DEFATOR METAL FABRICATING INDST PXMFDR295.98
SECT DEFATOR MACHINERY (EX ELEC MACH) INDST PXMFDR301.09
SECT DEFATOR NONAUTO TRANSPORT EQUIP INDST PXMFDR311.18
SECT DEFATOR MOTOR VEHICLE INDST(EX PARTS & ACC) PXMFDR321+26.9
SECT DEFATOR MOTOR VEHICLE PARTS & ACC INDST PXMFDR323.24
SECT DEFATOR ELECTRICAL PRODUCTS INDST PXMFDR325
SECT DEFATOR NONMETALLIC MINERAL PRODUCTS PXMFDR331.39
SECT DEFATOR FOOD & BEV INDST PXMFDR351.59
SECT DEFATOR TOBACCO PRODUCT INDST PXMFND181.09
SECT DEFATOR LEATHER INDST PXMFND151.53
SECT DEFATOR TEXTILE INDST PXMFND172.79
SECT DEFATOR KNOTTING MILLS & CLOTHING INDST PXMFND181.89
SECT DEFATOR PAPER & ALLIED INDST PXMFND231.49
SECT DEFATOR PRINTING PUB & ALLIED INDST PXMFND271.74
SECT DEFATOR PET & COAL PROD INDST PXMFND286.89
SECT DEFATOR CHEM & CHEM PROD INDST PXMFND365.69
SECT DEFATOR MISC MANUFACTURING INDST PXMFND372.79
SECT DEFATOR COAL MINING INDST PXMFND391.99
SECT DEFATOR CRD PET NATL GAS & SERV INDST PXMCL61
SECT DEFATOR METAL MINING INDST PXMCP64+96.9
SECT DEFATOR NONMETAL MINING (EX COAL) INDST PXMIM51.
SECT DEFATOR COMMERCIAL SERV INDST PXMIM71.87
SECT DEFATOR COLLEGE & UNIV EDUCATION PXSVCM
SECT DEFATOR OTHER NONCOMMERCIAL SERV INDST PXSVD806
SECT DEFATOR WHOLESALE & RETAIL TRADE INDST PXSVC
SECT DEFATOR TRANSPORTATION INDST PXTRAD602.99
SECT DEFATOR UTILITY INDST PXTRSP601.27
SECT DEFATOR AGRICULTURE, FISH & TRAP INDST PXUTLL572.79
SECT DEFATOR CONSTRUCTION INDST XAGFT1.21+41.7
RDP, COMMERCIAL SERV INDST XCNST444.21
RDP, FIN INSUR & REAL ESTATE INDST XCOMH543.48
RDP, FIN INSUR & REAL ESTATE INDST XFIRE701.37

RDP, FORESTRY INDST
 RDP, WOOD INDST
 RDP, FURNITURE & FIXTURE INDST
 RDP, IRON & STEEL INDST
 RDP, NONFERROUS METAL INDST
 RDP, METAL FABRICATING INDST
 RDP, MACHINERY (EX ELEC MACH) INDST
 RDP, NONAUTO TRANSPORT EQUIP INDST
 RDP, MOTOR VEH INDST (EX PARTS & ACC)
 RDP, MOTOR VEH PARTS & ACC INDST
 RDP, ELEC PROD INDST
 RDP, NONMETALLIC MIN PROD INDST
 RDP, FOOD & BEV INDST
 RDP, TOBACCO PRODUCT INDST
 RDP, RUBBER & PLASTICS PROD INDST
 RDP, LEATHER INDST
 RDP, TEXTILE INDST
 RDP, KNITTING & CLOTHING INDST
 RDP, PAPER & ALLIED INDST
 RDP, PRINTING PUBLISHING & ALLIED INDST
 RDP, PET & COAL PROD INDST
 RDP, CHEM & CHEM PROD INDST
 RDP, MISC MANUFACTURING INDST
 RDP, COAL MINING INDST
 RDP, CRD PET NATL GAS & SERV INDST
 RDP, METAL MINING INDST
 RDP, NONMETAL MINING (EX COAL) INDST
 RDP, COMMERCIAL SERVICES INDST
 RDP, COLLEGE & UNIV EDUCATION
 RDP, OTHER NONCOMMERCIAL SERV INDST
 RDP, WHOLESALE & RETAIL TRADE INDST
 RDP, TRANSPORTATION INDST
 RDP, UTILITY INDST

VARIABLES EXOGENOUS TO THE BUSINESS FIXED INVESTMENT - CONSTRUCTION BLOCK

INV ADJUSTING ENTRY - BUSINESS - NONRES CONSTRUCTION	IBCCHK	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY57	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY59	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY60	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY61	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY62	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY65	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY66	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY67	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY68	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY69	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY70	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY71	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY72	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUMMY74	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUM5657	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUM58	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUM62	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUM6566	E
DUMMY VARIABLE - BUSINESS FIXED INVEST BLOCK	IDUM66	E

XFSTY31.9
 XMEDR251.59
 XMEDR261.68
 XMEDR291.94
 XMEDR295.98
 XMEDR301.09
 XMEDR311.18
 XMEDR321+26.9
 XMEDR323.24
 XMEDR325
 XMEDR331.39
 XMEDR351.59
 XMEND101.09
 XMEND151.53
 XMEND162.65
 XMEND172.79
 XMEND181.89
 XMEND231.49
 XMEND271.74
 XMEND286.89
 XMEND365.69
 XMEND372.79
 XMEND391.99
 XMICL61
 XMICP64+96.9
 XMIMM51.9
 XMIMM71.87
 XSVCM
 XSVHGED806
 XSVNC
 XTRAD602.99
 XTRSP501.27
 XUTIL572.79

INV AGRIC FISH & TRAP INDST - BLDG & ENG CONST	IMICCHK + IMICLC61 + IMIFC64+96.9 + IMIMMC51.9
INV FORESTRY INDST - BLDG & ENG CONST	+ IMINMC71.87
INV COAL MIN - BLDG & ENG CONST	IMFDC251.9
INV CRD PET NATL GAS&SERV - BLDG & ENG CONST	IMFDC261.8
INV METAL MINING INDST - BLDG & ENG CONST	IMFDC291.4
INV NONMETAL MIN (EX COAL) - BLDG & ENG CONST	IMFDC295.8
INV MINING TOTAL - BLDG & ENG CONST	IMFDC291.8CHK + IMFDC291.4 + IMFDC295.8
INV WOOD INDST - BLDG & ENG CONST	IMFDC301.9
INV FURNITURE & FIXTURE INDST - BLDG CONST	IMFDC311.8
INV IRON & STEEL INDST - BLDG CONST	IMFDC321+326.9
INV NONFERROUS METALS - BLDG & ENG CONST	IMFDC323.4
INV PRIMARY METAL INDST - BLDG & ENG CONST	IMFDC325
INV METAL FAB INDST - BLDG & ENG CONST	IMFDC321.9
INV MACH (EXCL ELCB MACH) INDST - BLDG & ENG CONST	IMFDC331.9
INV NONAUTO TRANS EQUIP - BLDG & ENG CONST	IMFDC351.9
INV MOTOR VEHICLE (EX PARTS & ACC) - BLDG CONST	IMFDC
INV MOTOR VEHICLE PARTS & ACC - BLDG CONST	IMFDC101.9
INV TRANSPORT INDST - BLDG & ENG CONST	IMFDC151.3
INV ELECT PROD INDST - BLDG & ENG CONST	IMFDC162.5
INV NONMETAL MIN PROD INDST - BLDG & ENG CONST	IMFDC172.9
INV MANUF DURABLES TOTAL - BLDG & ENG CONST	IMFDC181.9
INV FOOD & BEV - BLDG & ENG CONST	IMFDC231.49
INV TOBACCO PROD INDST - BLDG & ENG CONST	IMFDC271.4
INV RUBBER & PLASTIC PROD INDST - BLDG & ENG CONST	IMFDC286.9
INV LEATHER INDST - BLDG & ENG CONST	IMFDC365.9
INV TEXTILE INDST - BLDG & ENG CONST	IMFDC372.9
INV KNITTING & CLOTHING INDST - BLDG CONST	IMFDC391.9
INV PAPER & ALLIED INDST - BLDG CONST	IMFDC
INV PRINT, PUB & ALLIED INDST - BLDG & ENG CONST	IMFDC101.9 + IMFDC151.3 + IMFDC162.5
INV PET & COAL PROD INDST - BLDG & ENG CONST	+ IMFDC172.9 + IMFDC181.9 + IMFDC231.49
INV CHEM & CHEM PROD INDST - BLDG & ENG CONST	+ IMFDC271.4 + IMFDC286.9 + IMFDC365.9
INV MISC MANUF INDST - BLDG & ENG CONST	+ IMFDC372.9 + IMFDC391.9
INV MANUF NONDURABLE TOTAL - BLDG & ENG CONST	= IMFDC + IMFDC
INV MANUF TOTAL - BLDG & ENG CONST	IMFC
INV CONSTRUCTION INDST - BLDG & ENG CONST	ICNSTC
INV TRANSPORTATION INDST - BLDG & ENG CONST	ITRSPC501.27
INV COMMUNICATION INDST - BLDG & ENG CONST	ICOMMC543.8
INV FIN INS & REAL ESTATE INDST - BLDG CONST	IFIREC701.37
INV UTILITY INDST - BLDG CONST	IUTILC572.9
INV WHOLESALE & RETAIL TRADE INDST - BLDG CONST	ITRADCC602.99
INV COMMERCIAL SVCS INDST - BLDG CONST	ISVCMC
INV OTHER NONCOMMERCIAL SVCS INDST - BLDG CONST	ISVNCC
INV COLLEGE & UNIV EDUC - BLDG CONST	ISVHGDC806
INV BUS NONRES CONSTRUCTION - CONST DIV	IINVEC
	=
	IMFDC + IMFDC
	IMFDC101.9 + IMFDC151.3 + IMFDC162.5
	+ IMFDC172.9 + IMFDC181.9 + IMFDC231.49
	+ IMFDC271.4 + IMFDC286.9 + IMFDC365.9
	+ IMFDC372.9 + IMFDC391.9
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	IMFC
	ICNSTC
	ITRSPC501.27
	ICOMMC543.8
	IFIREC701.37
	IUTILC572.9
	ITRADCC602.99
	ISVCMC
	ISVNCC
	ISVHGDC806
	IINVEC
	=
	IMFDC + IMFDC

INV REAL ESTATE COMMISSION NONRES CONST - NAT ACC
INV BUS NONRES CONST - NAT ACC

IREC.NR
IBNACO

B
= IINVBC + IREC.NR + IBCCHK

Equation No.: 727

Name: Investment Agriculture, Fishing and Trapping Industry --
Building and Engineering Construction

Mnemonic: IAGFTC

Period: 1956-74

IAGFTC

= + 233.99500
(8.71)

- 25.50580 IDUMMY70
(1.77)

- 39.97670 IDUMMY71
(2.84)

+ sum(i=0,6)b(i) ((PXAGFT1.21+41.7(-i) * XAGFT1.21+41.7(-i) /
IUCAGFTC(-i)) - (PXAGFT1.21+41.7(-i-1)
* XAGFT1.21+41.7(-i-1) / IUCAGFTC(-i-1)))

+ sum(i=1,3)c(i) IKAGFTC(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00078	(1.79)		
1	+.00167	(2.79)	+.00444	(2.14)
2	+.00250	(4.16)	+.00591	(2.14)
3	+.00310	(5.47)	+.00444	(2.14)
4	+.00332	(5.82)		
5	+.00298	(5.33)		
6	+.00193	(4.70)		

sum	+.01628	(5.47)	+.01479	(2.14)
	(3,7,BOTH)		(2,3,BOTH)	

$\bar{R}^2 = .808$

SEE = 12.073

D.W. = 1.823

Equation No.: 728

Name: Investment Forestry Industry -- Building and Engineering
Construction

Mnemonic: IFSTYC31.9

Period: 1952-74

IFSTYC31.9

= + 19.59070
(3.02)

+ 13.17880 IDUMMY69
(2.65)

+ sum(i=0,2)b(i) ((PXFSTY31.9(-i) * XFSTY31.9(-i) /
IUCFSTYC31.9(-i)) - (PXFSTY31.9(-i-1) *
XFSTY31.9(-i-1) / IUCFSTYC31.9(-i-1)))

+ sum(i=1,5)c(i) IKFSTYC31.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.01991	(7.66)		
1	+.02082	(8.46)	+.17371	(3.81)
2	+.01132	(6.43)	+.14389	(3.91)
3			+.01107	(4.43)
4			-.12420	(3.49)
5			-.16141	(3.60)
sum	+.05205	(8.46)	+.04307	(4.43)
	(3,3,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .846$

SEE = 4.736

D.W. = 1.715

Equation No.: 730

Name: Investment Coal Mining Industry --
Building and Engineering Construction

Mnemonic: IMICLC61

Period: 1957-74

IMICLC61

```
= - 6.06816
    (2.35)

+ 5.68866      ((PXMICL61(-1) / IUCMICLC61(-1)) - (PXMICL61(-2)
  (4.75)        / IUCMICLC61(-2)))

- 8.29267      IDUMMY62
  (2.63)

+ 27.93380     IDUMMY68
  (9.64)

+ 93.79460     IDUM6970
  (24.66)

+ 50.79540     IDUMMY71
  (8.27)

+ sum(i=0,2)b(i) (XMICL61(-i) - XMICL61(-i-1))

+ sum(i=1,3)c(i) IKMICLC61(-i)

i      b(i)      t(i)      c(i)      t(i)

0      +.18480   (2.24)
1      +.24771   (3.85)      -.21187   (4.36)
2      +.18677   (2.17)      +.05254   (4.74)
3                          +.29067   (5.35)

sum +.61927      (3.85)      +.13134   (4.74)
    (3,3,BOTH)      (3,3,BOTH)
```

$\overline{R}^2 = .989$

SEE = 2.672

D.W. = 2.963

Equation No.: 731

Name: Investment Crude Petroleum, Natural Gas and Services Incidental
to Mining Industry -- Building and Engineering Construction

Mnemonic: IMIPC64+96.9

Period: 1956-74

IMIPC64+96.9

= + 312.88400
(14.52)

+ 129.90100 IDUMMY61
(8.93)

+ sum(i=0,5)b(i) ((PXMIPC64+96.9(-i) * XMIPC64+96.9(-i) /
IUCMIPC64+96.9(-i)) - (PXMIPC64+96.9(-i-1)
* XMIPC64+96.9(-i-1) / IUCMIPC64+96.9(-i-1)))

+ sum(i=1,5)c(i) IKMIPC64+96.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.01342	(7.61)		
1	+.03262	(14.04)	-.21508	(8.78)
2	+.05145	(14.58)	-.15366	(8.06)
3	+.06376	(12.40)	+.04142	(28.84)
4	+.06339	(10.78)	+.22729	(10.68)
5	+.04419	(9.73)	+.26110	(10.08)
sum	+.26882	(13.47)	+.16107	(28.84)
	(3,6,BOTH)		(3,5,BOTH)	

$\overline{R}^2 = .994$

SEE = 12.855

D.W. = 2.563

Equation No.: 732

Name: Investment Metal Mining Industry -- Building and Engineering Construction

Mnemonic: IMIMMC51.9

Period: 1956-75

IMIMMC51.9

= - 1387.65000
(5.37)

+ 318.51700 IDUM5657
(9.68)

+ 47.87180 IDUMMY66
(1.87)

+ 233.77400 IDUMMY71
(8.99)

+ sum(i=2,4)b(i) (PXMIMM51.9(-i) / IUCMIMMC51.9(-i))

+ sum(i=1,4)c(i) XMIMM51.9(-i)

+ sum(i=1,3)d(i) IKMIMMC51.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
1			+ .28325	(3.81)	- .01299	(0.26)
2	+24.01180	(3.15)	+ .40877	(6.71)	- .07503	(4.79)
3	+31.10530	(3.97)	+ .39267	(5.53)	- .09955	(1.95)
4	+22.64620	(2.25)	+ .25104	(2.94)		
sum	+77.76330	(3.97)	+1.33572	(7.18)	- .18756	(4.79)
	(3,3,BOTH)		(3,4,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .958$

SEE = 23.556

D.W. = 2.888

Equation No.: 733

Name: Investment Nonmetal Mining (Excluding Coal) Industry --
Building and Engineering Construction

Mnemonic: IMINMC71.87

Period: 1953-74

IMINMC71.87

= + 9.07753
(1.27)

+ 60.25790 IDUMMY66
(3.74)

+ sum(i=0,3)b(i) ((PXMINM71.87(-i) * XMINM71.87(-i)
/ IUCMINMC71.87(-i)) - (PXMINM71.87(-i-1)
* XMINM71.87(-i-1) / IUCMINMC71.87(-i-1)))

+ sum(i=1,2)c(i) IKMINMC71.87(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00953	(0.89)		
1	+.01769	(1.70)	+.78931	(7.73)
2	+.02109	(2.00)	-.73421	(7.13)
3	+.01632	(1.50)		

sum	+.06463	(2.04)	+.05511	(3.41)
	(3,4,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .836$

SEE = 14.951

D.W. = 2.000

Equation No.: 735

Name: Investment Wood Industry--Building and Engineering Construction

Mnemonic: IMFDC251.9

Period: 1959-74

IMFDC251.9

= - 120.86900
(4.43)

+ 15.05960 IDUMMY69
(2.60)

+ sum(i=0,4)b(i) ((PXMFD251.59(-i) * XMFDR251.59(-i) /
IUCMFD251.9(-i)) - (PXMFD251.59(-i-1)
* XMFDR251.59(-i-1) / IUCMFD251.9(-i-1)))

+ sum(i=1,5)c(i) IKMFD251.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00295	(1.72)		
1	+.00432	(2.04)	-.16803	(1.85)
2	+.00441	(1.97)	-.06264	(1.04)
3	+.00352	(1.44)	+.16152	(5.09)
4	+.00195	(0.96)	+.34978	(3.10)
5			+.34749	(2.80)
sum	+.01715	(1.97)	+.62812	(5.09)
	(3,5,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .895$

SEE = 5.490

D.W. = 2.065

Equation No.: 736

Name: Investment Furniture and Fixtures Industry -- Building
Construction

Mnemonic: IMFDC261.8

Period: 1957-75

IMFDC261.8

= - 12.66580
(1.43)

+ .13145 XMFDR261.68(-1)
(7.14)

+ sum(i=3,8)b(i) (PXMFD261.68(-i) / IUCMFDC261.8(-i))

+ sum(i=1,3)c(i) IKMFDC261.8(-i)

i	b(i)	t(i)	c(i)	t(i)
1			-.42588	(3.66)
2			-.21859	(5.13)
3	+.57769	(1.65)	+.09799	(0.89)
4	+.77515	(2.01)		
5	+.70499	(2.65)		
6	+.47979	(2.00)		
7	+.21217	(0.61)		
8	+.01470	(0.05)		
sum	+2.76448	(2.71)	-.54648	(5.13)
	(3,6,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .809$

SEE = 1.558

D.W. = 1.939

Equation No.: 738

Name: Investment Iron and Steel Industry --
Building and Engineering Construction

Mnemonic: IMFDC291.4

Period: 1958-74

IMFDC291.4

= + 125.50500
(2.56)

+ sum(i=4,9)b(i) (PXMFD291.94(-i) / IUCMFDC291.4(-i))

+ sum(i=0,1)c(i) XMFDR291.94(-i)

+ sum(i=1,4)d(i) IKMFDC291.4(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.13780	(4.98)		
1			+.14325	(3.92)	-.33324	(4.30)
2					-.31570	(5.75)
3					-.13155	(4.30)
4	+1.96338	(1.66)			+.03507	(0.62)
5	+2.44976	(1.88)				
6	+1.95265	(1.99)				
7	+ .96560	(0.90)				
8	- .01787	(0.01)				
9	+ .50425	(0.39)				

sum	+6.80926	(1.58)	+.28105	(6.83)	-.74541	(7.37)
(3,6,BOTH)			(3,2,BOTH)		(3,4,BOTH)	

$\bar{R}^2 = .831$

SEE = 5.742

D.W. = 3.106

Equation No.: 739

Name: Investment Nonferrous Metals Industry --
Building and Engineering Construction

Mnemonic: IMFDC295.8

Period: 1954-74

IMFDC295.8

= - 269.40200
(5.52)

+ sum(i=0,2)b(i) (PKMFDR295.98(-i) / IUCMFDC295.8(-i))

+ sum(i=0,4)c(i) XMFDR295.98(-i)

+ sum(i=1,7)d(i) IKMFDC295.8(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+2.47103	(1.15)	+.31018	(5.84)		
1	+7.92145	(5.93)	+.30932	(6.84)	+.02514	(1.60)
2	+9.41114	(5.90)	+.13765	(10.16)	+.01738	(0.95)
3			-.06461	(1.65)	-.01042	(0.83)
4			-.15724	(3.20)	-.04541	(6.99)
5					-.07471	(5.95)
6					-.08549	(4.68)
7					-.06487	(4.14)

sum +19.80360 (5.93) +.53531 (10.16) -.23839 (6.99)

(3,3,BOTH)

(3,5,BOTH)

(3,7,BOTH)

$\overline{R}^2 = .869$

SEE = 8.018

D.W. = 2.802

Equation No.: 741

Name: Investment Metal Fabricating Industry--Building and Engineering Construction

Mnemonic: IMFDC301.9

Period: 1953-74

IMFDC301.9

= - 68.72980
(1.05)

+ 9.95338 IDUMMY59
(2.30)

+ sum(i=1,3)b(i) (PXMFD301.09(-i) / IUCMFDC301.9(-i))

+ sum(i=0,4)c(i) XMFDR301.09(-i)

+ sum(i=1,2)d(i) IKMFDC301.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.00428	(0.39)		
1	+4.62936	(2.59)	+.02546	(3.61)	-.24946	(1.32)
2	+6.62371	(3.38)	+.04956	(5.11)	-.35490	(1.92)
3	+5.30620	(2.56)	+.06266	(3.18)		
4			+.05079	(2.58)		

sum +16.55930 (3.38) +.19275 (5.11) -.60436 (3.57)

(3,3,BOTH)

(3,5,BOTH)

(3,2,BOTH)

$\bar{R}^2 = .849$

SEE = 4.012

D.W. = 2.157

Equation No.: 742

Name: Investment Machinery (Excluding Electrical Machinery) Industry
-- Building and Construction

Mnemonic: IMFDC311.8

Period: 1953-74

IMFDC311.8

= - 14.10170
(0.66)

+ 10.92910 IDUMMY70
(3.40)

+ sum(i=1,2)b(i) (PXMFD311.18(-i) / IUCMFD311.8(-i))

+ sum(i=0,4)c(i) XMFD311.18(-i)

+ sum(i=1,3)d(i) IKMFD311.8(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.06517	(7.19)		
1	+1.32761	(0.96)	+.06012	(7.43)	-.37359	(3.99)
2	+1.68542	(1.13)	+.01797	(3.45)	-.07771	(2.09)
3			-.02818	(3.18)	+.25703	(3.35)
4			-.04521	(4.70)		

sum	+3.01303	(1.79)	+.06987	(3.45)	-.19428	(2.09)
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(3,2,BOTH)		(3,5,BOTH)		(3,3,BOTH)
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$\bar{R}^2 = .873$

SEE = 2.885

D.W. = 2.251

Equation No.: 744

Name: Investment Nonauto Transport Equipment --
Building and Engineering Construction

Mnemonic: IMFDC321+326.9

Period: 1955-75

IMFDC321+326.9

= - 60.06030
(2.84)

+ sum(i=2,5)b(i) (PXMFD321+26.9(-i) / IUCMFDC321+26.9(-i))

+ sum(i=1,6)c(i) XMFDR321+26.9(-i)

+ sum(i=1,5)d(i) IKMFDC321+326.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
1			+0.01643	(5.16)	-.24029	(4.61)
2	+1.46886	(1.99)	+0.02462	(6.27)	-.20637	(4.39)
3	+1.98641	(3.59)	+0.02623	(7.29)	-.03181	(2.10)
4	+1.76953	(3.53)	+0.02291	(6.42)	+0.14981	(5.04)
5	+1.03510	(1.51)	+0.01633	(4.21)	+0.20494	(5.00)
6			+0.00814	(2.59)		
sum	+6.25991	(4.54)	+0.11466	(7.18)	-.123712	(2.10)
(3,4,BOTH)			(3,6,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .765$

SEE = 2.38280

D.W. = 2.786

Equation No.: 745

Name: Investment Motor Vehicle (Excluding Parts and Accessories)
Industry -- Building and Engineering Construction

Mnemonic: IMFDC323.4

Period: 1955-74

IMFDC323.4

= - 36.85160
(2.11)

+ 11.50930 IDUM62
(2.79)

+ 14.50120 IDUMMY65
(3.20)

+ 15.38140 IDUMMY67
(3.41)

+ sum(i=1,4)b(i) (PXMFD323.24(-i) / IUCMFDC323.4(-i))

+ sum(i=0,2)c(i) XMFDR323.24(-i)

+ sum(i=1,3)d(i) IKMFDC323.4(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.03140	(2.11)		
1	+1.48697	(2.03)	+.04930	(7.00)	-.01621	(0.14)
2	+2.12226	(5.48)	+.04255	(2.51)	-.11776	(4.18)
3	+2.01407	(2.81)			-.16044	(1.56)
4	+1.27059	(1.26)				
sum	+6.89388	(5.26)	+.12325	(7.00)	-.29441	(4.18)
	(3,4,BOTH)		(3,3,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .926$

SEE = 3.790

D.W. = 2.665

Equation No.: 746

Name: Investment Motor Vehicle Parts and Accessories --
Building and Engineering Construction

Mnemonic: IMFDC325

Period: 1959-74

IMFDC325

= - .76571
(0.34)

+ 35.88080 IDUMMY66
(8.62)

+ sum(i=1,8)b(i) ((PXMFD325(-i) * XMFDR325(-i) / IUCMFDC325(-i))
- (PXMFD325(-i-1) * XMFDR325(-i-1) /
IUCMFDC325(-i-1)))

+ sum(i=1,5)c(i) IKMFDC325(-i)

i	b(i)	t(i)	c(i)	t(i)
1	+.00871	(7.25)	-.14497	(2.78)
2	+.01647	(7.91)	-.11126	(2.68)
3	+.02274	(6.83)	+.01062	(2.04)
4	+.02702	(5.56)	+.13013	(3.01)
5	+.02876	(4.64)	+.15676	(2.95)
6	+.02745	(3.99)		
7	+.022575	(3.53)		
8	+.01360	(3.19)		

sum +.16733 (5.06) +.04129 (2.04)

(3,8,BOTH)

(3,5,BOTH)

$\bar{R}^2 = .948$

SEE = 3.364

D.W. = 1.774

Equation No.: 748

Name: Investment Electrical Products Industry --
Building and Engineering Construction

Mnemonic: IMFDC331.9

Period: 1958-74

IMFDC331.9

= + 35.62160
(0.94)

+ sum(i=1,5)b(i) (PXMFD331.39(-i) / IUCMFDC331.9(-i))

+ sum(i=0,4)c(i) XMFDR331.39(-i)

+ sum(i=1,4)d(i) IKMFDC331.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.00130	(0.21)		
1	+.46377	(1.30)	+.02005	(4.50)	-.57136	(4.24)
2	+.74203	(1.30)	+.04277	(5.02)	-.43992	(4.62)
3	+.83479	(1.30)	+.05599	(3.88)	-.02281	(0.62)
4	+.74203	(1.30)	+.04622	(3.41)	+.26287	(2.96)
5	+.46377	(1.30)				
sum	+3.24639	(1.30)	+.16634	(5.02)	-.77123	(4.94)
	(2,5,BOTH)		(3,5,BOTH)		(3,4,BOTH)	

$\bar{R}^2 = .825$

SEE = 3.455

D.W. = 2.655

Equation No.: 749

Name: Investment Nonmetal Mineral Products Industry --
Building and Engineering Construction

Mnemonic: IMFDC351.9

Period: 1957-75

IMFDC351.9

= - 122.19200
(1.13)

+ 12.15160 IDUM58
(1.43)

+ 20.12360 IDUMMY66
(2.46)

+ sum(i=1,2)b(i) (PXMFD351.59(-i) / IUCMFDC351.9(-i))

+ sum(i=3,7)c(i) XMFDR351.59(-i)

+ sum(i=1,6)d(i) IKMFDC351.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
1	+6.38225	(1.07)			-.00807	(0.15)
2	+15.02520	(2.20)			-.05205	(0.83)
3			+.03918	(1.08)	-.10878	(2.12)
4			+.08665	(2.39)	-.15510	(3.55)
5			+.12443	(3.70)	-.16785	(3.39)
6			+.13457	(2.92)	-.12387	(2.86)
7			+.09908	(2.24)		
sum	+21.4074	(2.10)	+.48391	(3.70)	-.61572	(2.97)
	(3,2,BOTH)		(3,5,BOTH)		(3,6,BOTH)	

$\bar{R}^2 = .709$

SEE = 6.487

D.W. = 2.316

Equation No.: 751

Name: Investment Food and Beverage Industry --
Building and Engineering Construction

Mnemonic: IMFNDC101.9

Period: 1954-74

IMFNDC101.9

= - 126.76900
(2.17)

+ 17.19360 IDUMMY66
(2.67)

+ sum(i=2,5)b(i) (PXMFnD101.09(-i) / IUCMFNDC101.9(-i))

+ sum(i=0,3)c(i) XMFND101.09(-i)

+ sum(i=1,5)d(i) IKMFNDC101.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			-.11456	(2.68)		
1			-.00896	(0.33)	+.08480	(1.23)
2	+3.58440	(2.21)	+.15391	(4.93)	+.02467	(0.37)
3	+4.20476	(2.62)	+.21119	(4.56)	-.09712	(2.57)
4	+3.03291	(2.81)			-.19733	(3.96)
5	+1.24071	(1.44)			-.19271	(3.36)
sum	+12.0628	(2.84)	+.24158	(3.61)	-.37770	(2.57)
	(3,4,BOTH)		(3,4,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .905$

SEE = 5.548

D.W. = 2.048

Equation No.: 752

Name: Investment Tobacco Products Industry --
Building and Engineering Construction

Mnemonic: IMFNDC151.3

Period: 1956-74

IMFNDC151.3

= - 38.98160
(4.16)

+ sum(i=3,7)b(i) (PXMFNDC151.53(-i) / IUCMFNDC151.3(-i))

+ sum(i=0,2)c(i) XMFNDC151.53(-i)

+ sum(i=1,2)d(i) IKMFNDC151.3(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.18644	(3.25)		
1			+.11078	(4.92)	-.63679	(3.18)
2			-.02028	(0.31)	+.20401	(1.01)
3	+.70099	(4.82)				
4	+.91004	(5.04)				
5	+.78580	(4.85)				
6	+.48694	(3.55)				
7	+.17212	(1.69)				
sum	+3.05588	(4.85)	+.27694	(4.92)	-.43278	(3.11)
	(3,5,BOTH)		(3,3,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .731$

SEE = .86327

D.W. = 2.136

Equation No.: 753

Name: Investment Rubber and Plastic Products Industry --
Building and Engineering Construction

Mnemonic: IMFNDC162.5

Period: 1955-74

IMFNDC162.5

= + 8.83985
(2.11)

+ 7.52641 IDUMMY60
(2.35)

+ 10.47250 IDUMMY66
(3.15)

+ sum(i=0,6)b(i) XMFND162.65(-i)

+ sum(i=1,3)c(i) IKMFNDC162.5(-i)

i	b(i)	t(i)	c(i)	t(i)
0	-.04903	(2.80)		
1	-.04282	(2.38)	-.52185	(3.09)
2	-.00197	(0.23)	-.15332	(3.12)
3	+.05289	(4.60)	+.29187	(2.03)
4	+.10113	(4.03)		
5	+.12215	(3.80)		
6	+.09531	(3.69)		

sum +.27766 (4.60) -.38331 (3.12)

(3,7,BOTH)

(3,3,BOTH)

$\bar{R}^2 = .890$

SEE = 2.993

D.W. = 1.972

Equation No.: 754

Name: Investment Leather Industry -- Building
and Engineering Construction

Mnemonic: IMFNDC172.9

Period: 1959-75

IMFNDC172.9

= - 10.78060
(1.62)

- .77851 IDUMMY61
(1.13)

- 1.66851 IDUMMY70
(2.56)

+ 3.35573 IDUMMY72
(5.82)

+ sum(i=3,9)b(i) (PXMFNDC172.79(-i) / IUCMFNDC172.9(-i))

+ sum(i=1,2)c(i) XMFNDC172.79(-i)

i	b(i)	t(i)	c(i)	t(i)
1			+.01290	(0.37)
2			+.04285	(1.89)
3	-.04876	(0.66)		
4	-.03382	(0.44)		
5	+.01994	(0.45)		
6	+.08763	(1.50)		
7	+.14436	(1.30)		
8	+.16526	(1.19)		
9	+.12544	(1.14)		
sum	+.46004	(1.50)	+.05575	(2.17)
	(3,7,BOTH)		(3,2,BOTH)	

$\overline{R}^2 = .814$

SEE = .471

D.W. = 3.103

Equation No.: 755

Name: Investment Textile Industry -- Building
and Engineering Construction

Mnemonic: IMFNDC181.9

Period: 1954-74

IMFNDC181.9

= - 35.70280
(1.10)

+ 9.59131 IDUMMY69
(1.83)

+ sum(i=1,5)b(i) (PXMFNDC181.89(-i) / IUCMFNDC181.9(-i))

+ sum(i=0,2)c(i) XMFNDC181.89(-i)

+ sum(i=1,2)d(i) IKMFNDC181.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.10111	(2.82)		
1	+1.09887	(1.42)	+.05440	(4.34)	+.51040	(3.85)
2	+1.32830	(1.66)	-.01950	(0.47)	-.71153	(5.01)
3	+1.01070	(2.21)				
4	+ .46851	(1.34)				
5	+ .02413	(0.05)				

sum	+3.93051	(2.21)	+.13601	(4.34)	-.20113	(2.39)
	(3,5,BOTH)		(3,3,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .846$

SEE = 4.264

D.W. = 2.244

Equation No.: 756

Name: Investment Knitting and Clothing Industry --
Building Construction

Mnemonic: IMFND231.49

Period: 1955-74

IMFND231.49

= - 55.40720
(3.45)

+ sum(i=2,6)b(i) (PXMFD231.49(-i) / IUCMFD231.49(-i))

+ sum(i=0,2)c(i) XMFND231.49(-i)

+ sum(i=1,4)d(i) IKMFD231.49(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.04682	(3.43)		
1			+.02344	(4.63)	-.44441	(3.92)
2	+ .25954	(0.94)	-.01166	(0.91)	-.23991	(3.88)
3	+ .62909	(1.97)			+.18680	(3.71)
4	+ .94827	(3.42)			+.40901	(3.88)
5	+1.05673	(3.87)				
6	+ .79409	(3.36)				
sum	+3.68772	(3.42)	+.05860	(4.63)	-.08850	(1.88)
	(3,5,BOTH)		(3,3,BOTH)		(3,4,BOTH)	

$\bar{R}^2 = .785$

SEE = 1.128

D.W. = 1.894

Equation No.: 757

Name: Investment Paper and Allied Industries -- Building and
Engineering Construction

Mnemonic: IMFNDC271.4

Period: 1956-74

IMFNDC271.4

= - 712.44800
(5.24)

+ 48.24330 IDUM6566
(3.50)

+ 45.98430 IDUM68
(3.07)

+ sum(i=4,7)b(i) (PXMFnD271.74(-i) / IUCMFNDC271.4(-i))

+ sum(i=0,4)c(i) XMFND271.74(-i)

+ sum(i=1,5)d(i) IKMFNDC271.4(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+ .01793	(0.28)		
1			+ .15371	(4.13)	- .36606	(4.40)
2			+ .31357	(5.51)	- .38873	(4.69)
3			+ .40375	(3.40)	- .21574	(4.81)
4	+ 8.70136	(2.57)	+ .33049	(2.78)	+ .00519	(0.12)
5	+10.92270	(3.84)			+ .12634	(2.30)
6	+ 8.79338	(6.62)				
7	+ 4.44270	(2.57)				

sum	+32.86010	(5.25)	+1.21945	(5.51)	- .83899	(4.81)
	(3,4,BOTH)		(3,5,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .912$

SEE = 11.931

D.W. = 1.785

Equation No.: 758

Name: Investment Printing, Publishing and Allied Industries
Building and Engineering Construction

Mnemonic: IMFNDC286.9

Period: 1954-74

IMFNDC286.9

= - 122.06400
(5.42)

+ 10.46430 IDUMMY57
(3.69)

+ sum(i=0,4)b(i) (PXMFNDC286.89(-i) / IUCMFNDC286.9(-i))

+ sum(i=1,5)c(i) XMFNDC286.89(-i)

+ sum(i=1,5)d(i) IKMFNDC286.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	-.13570	(0.24)				
1	+1.29576	(2.52)	-.02106	(1.25)	-.30660	(5.68)
2	+3.15970	(6.31)	+.00245	(0.17)	-.27520	(5.44)
3	+4.32150	(5.45)	+.04342	(4.36)	-.06732	(2.60)
4	+3.64648	(4.68)	+.07475	(4.08)	+.15552	(4.24)
5			+.06931	(3.54)	+.23180	(5.23)
sum	+12.28770	(6.31)	+.16887	(4.36)	-.26179	(2.60)
	(3,5,BOTH)		(3,5,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .742$

SEE = 2.3828

D.W. = 1.397

Equation No.: 759

Name: Investment Petroleum and Coal Products Industry --
Building and Engineering Construction

Mnemonic: IMFNDC365.9

Period: 1954-75

IMFNDC365.9

= - 116.66200
(2.07)

+ 49.57460 IDUMMY70
(2.15)

+ sum(i=3,5)b(i) (PXMFnD365.69(-i) / IUCMFnD365.9(-i))

+ sum(i=1,4)c(i) XMFND365.69(-i)

+ sum(i=1,4)d(i) IKMFND365.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
1			+1.52442	(4.22)	+.07132	(1.59)
2			+1.29851	(5.19)	-.05920	(1.64)
3	-1.02894	(1.03)	+ .31040	(1.79)	-.22539	(9.48)
4	+1.81718	(2.39)	- .45181	(1.53)	-.26105	(8.12)
5	+3.75471	(2.93)				

sum	+4.54295	(2.39)	+2.68152	(5.48)	-.47432	(5.71)
	(3,3,BOTH)		(3,4,BOTH)		(3,4,BOTH)	

$\overline{R}^2 = .904$

SEE = 20.702

D.W. = 2.111

Equation No.: 760

Name: Investment Chemical and Chemical Products Industry --
Building and Engineering Construction

Mnemonic: IMFNDC372.9 Period: 1957-74

IMFNDC372.9

= - 308.78700
(2.22)

+ 24.31810 IDUMMY65
(1.33)

+ 32.86180 IDUMMY68
(1.66)

+ sum(i=5,8)b(i) (PXMFNDC372.79(-i) / IUCMFNDC372.9(-i))

+ sum(i=0,2)c(i) XMFNDC372.79(-i)

+ sum(i=1,3)d(i) IKMFNDC372.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.07878	(0.57)		
1			+.18868	(3.48)	-.17815	(1.38)
2			+.20423	(1.05)	-.08465	(1.48)
3					+.05117	(0.45)
4						
5	+6.01865	(1.56)				
6	+7.06283	(2.10)				
7	+5.09767	(3.14)				
8	+2.08835	(1.16)				
sum	+20.26750	(2.64)	+.47169	(3.48)	-.21162	(1.48)
	(3,4,BOTH)		(3,3,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .845$ SEE = 15.410 D.W. = 1.446

Equation No.: 761

Name: Investment Miscellaneous Manufacturing Industry --
Building and Engineering Construction

Mnemonic: IMFND391.9

Period: 1952-74

IMFND391.9

= - 12.90340
(1.79)

+ 6.04723 IDUM58
(4.16)

+ 5.89419 IDUMMY70
(3.82)

+ sum(i=1,3)b(i) (PXMFD391.99(-i) / IUCMFD391.9(-i))

+ sum(i=0,2)c(i) XMFND391.99(-i)

+ sum(i=1,5)d(i) IKMFD391.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+ .03078	(2.27)		
1	+ .02380	(0.04)	+ .03548	(6.74)	- .02385	(0.52)
2	+ .65303	(2.20)	+ .02243	(1.33)	- .05653	(1.36)
3	+ .95575	(2.42)			- .08427	(5.22)
4					- .09328	(3.13)
5					- .06978	(1.82)

sum	+1.63258	(2.20)	+ .08870	(6.74)	- .32771	(5.22)
	(3, 3, BOTH)		(3, 3, BOTH)		(3, 5, BOTH)	

$\bar{R}^2 = .898$

SEE = 1.3574

D.W. = 2.660

Equation No.: 764

Name: Investment Construction Industry --
Building and Engineering Construction

Mnemonic: ICNSTC

Period: 1956-74

ICNSTC

= - 12.42310
(2.71)

+ .00054 ((PXCNST404.21 * XCNST404.21 / IUCCNSTC)
(1.83) - (PXCNST404.21(-1) * XCNST404.21(-1)
/ IUCCNSTC(-1)))

+ 6.67851 IDUM66
(3.00)

+ 28.67070 IDUMMY72
(12.67)

+ sum(i=1,2)b(i) IKCNSTC(-i)

i	b(i)	t(i)
1	+1.03009	(18.95)
2	- .92376	(16.20)

sum + .10633 (5.41)
(3,2,BOTH)

$\bar{R}^2 = .965$

SEE = 2.141

D.W. = 2.412

Equation No.: 765

Name: Investment Transport Industry --
Building and Engineering Construction

Mnemonic: ITRSPC501.27

Period: 1953-76

ITRSPC501.27

= - 65.08080
(0.59)

+ 311.80700 IDUM5657
(4.97)

+ 189.58300 IDUM62
(2.64)

- 178.17300 IDUMMY65
(2.46)

- 206.02500 IDUMMY74
(2.59)

+ sum(i=2,3)b(i) ((PXTRSP501.27(-i) * XTRSP501.27(-i)
/ IUCTRSPC501.27(-i))
- (PXTRSP501.27(-i-1) * XTRSP501.27(-i-1)
/ IUCTRSPC501.27(-i-1)))

+ sum(i=1,2)c(i) IKTRSPC501.27(-i)

i	b(i)	t(i)	c(i)	t(i)
1			+ .630116	(7.20)
2	+ .01644	(1.93)	- .59448	(6.94)
3	+ .02353	(2.63)		
sum	+ .03997	(3.31)	+ .03564	(4.49)
	(3,2,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .838$

SEE = 68.759

D.W. = 2.171

Equation No.: 766

Name: Investment Commercial Services Industry --
Building Construction

Mnemonic: ICOMMC543.8

Period: 1956-74

ICOMMC543.8

= - 282.08600
(2.51)

+ 30.94310 IDUMMY66
(2.88)

- .225024 IKOMMC543.8(-1)
(1.98)

+ sum(i=2,7)b(i) (PXCOMM543.48(-i) / IUCCOMMC543.8(-i))

+ sum(i=1,5)c(i) XCOMM543.48(-i)

i	b(i)	t(i)	c(i)	t(i)
1			+.46791	(6.27)
2	+2.86757	(2.30)	+.42044	(6.53)
3	+5.01194	(2.81)	+.10376	(1.89)
4	+6.29350	(3.10)	-.23597	(2.49)
5	+6.57268	(3.00)	-.35261	(3.64)
6	+5.70988	(2.65)		
7	+3.56552	(2.29)		

sum +30.02110 (3.10) +.40352 (1.89)

(3,6,BOTH)

(3,5,BOTH)

$\bar{R}^2 = .981$

SEE = 9.666

D.W. = 2.179

Equation No.: 767

Name: Investment Finance, Insurance and Real Estate Industry --
Building Construction

Mnemonic: IFIREC701.37

Period: 1957-74

IFIREC701.37

= - 1688.03000
(6.41)

+ 47.33050 IDUMMY72
(1.09)

+ sum(i=0,1)b(i) (PXFIRE701.37(-i) / IUCFIREC701.37(-i))

+ sum(i=0,1)c(i) XFIRE701.37(-i)

+ sum(i=1,2)d(i) IKFIREC701.37(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+53.90950	(2.65)	+.20899	(2.18)		
1	+68.26840	(2.62)	+.16760	(1.57)	+.63301	(4.99)
2					-.84788	(7.01)

sum	+122.17800	(5.09)	+.37659	(6.75)	-.21487	(5.26)
	(3,2,BOTH)		(3,2,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .981$

SEE = 31.276

D.W. = 2.242

Equation No.: 768

Name: Investment Utility Industry -- Building
and Engineering Construction

Mnemonic: IUTILC572.9

Period: 1958-76

IUTILC572.9

= - 23.60370
(0.31)

+ 148.17700 IDUMMY70
(1.72)

+ sum(i=3,5)b(i) ((PXUTIL572.79(-i) * XUTIL572.79(-i)
/ IUCUTILC572.9(-i))
- (PXUTIL572.79(-i-1) * XUTIL572.79(-i-1)
/ IUCUTILC572.9(-i-1)))

+ sum(i=1,2)c(i) IKUTILC572.9(-i)

i	b(i)	t(i)	c(i)	t(i)
1			+.42925	(2.44)
2			-.36024	(1.97)
3	+.07646	(4.05)		
4	+.07006	(4.17)		
5	+.02863	(1.12)		

sum +.17515 (4.17) +.06901 (8.69)

(3,3,BOTH) (3,2,BOTH)

$\bar{R}^2 = .952$

SEE = 74.841

D.W. = 2.465

Equation No.: 769

Name: Investment Wholesale and Retail Trade Industry -- Building
and Engineering Construction

Mnemonic: ITRADC602.99

Period: 1958-75

ITRADC602.99

= - 66.13060
(0.43)

+ 45.97870 IDUMMY74
(4.11)

+ sum(i=3,9)b(i) (PXTRAD602.99(-i) / IUCTRADC602.99(-i))

+ sum(i=1,2)c(i) XTRAD602.99(-i)

+ sum(i=1,3)d(i) IKTRADC602.99(-i)

i	b(i)	t(i)	c(i)	t(i)	c(i)	t(i)
1			+.12336	(6.61)	-.27836	(2.97)
2			-.041721	(1.80)	-.09703	(5.50)
3	+ 8.20782	(6.07)			+.13282	(1.90)
4	+12.20220	(6.63)				
5	+12.91730	(7.05)				
6	+11.28740	(6.54)				
7	+ 8.24650	(4.72)				
8	+ 4.72886	(2.73)				
9	+ 1.66864	(1.31)				

sum +59.25870 (6.54) +.08163 (7.38) -.24257 (5.50)

(3,7,BOTH)

(3,2,BOTH)

(3,3,BOTH)

$\bar{R}^2 = .934$

SEE = 8.907

D.W. = 2.838

Equation No.: 770

Name: Investment Commercial Services Industry -- Building
Construction

Mnemonic: ISVCMC

Period: 1956-74

ISVCMC

= - 475.22100
(6.55)

+ 95.00270 IDUMMY66
(6.99)

+ 72.51010 IDUMMY71
(5.14)

- .47198 IKSVC MC(-1)
(7.24)

+ sum(i=2,4)b(i) (PKSVCM(-i) / IUCSVCMC(-i))

+ sum(i=0,2)c(i) XSVCM(-i)

i	b(i)	t(i)	c(i)	t(i)
0			+.24618	(9.36)
1			+.06600	(6.72)
2	+11.67230	(1.93)	-.14717	(4.49)
3	+21.91750	(7.40)		
4	+21.20390	(3.20)		
sum	+54.79370	(7.40)	+.16501	(6.72)
	(3,3,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .982$

SEE = 11.277

D.W. = 3.023

Equation No.: 771

Name: Investment Other Noncommercial Services Industry --
Building Construction

Mnemonic: ISVNCC

Period: 1954-74

ISVNCC

= + 4.45022
(0.40)

+ .00323 ((PXSVC(-3) * XSVNC(-3) / IUCSVNCC(-3))
(1.26) - (PXSVC(-4) * XSVNC(-4) / IUCSVNCC(-4)))

+ 11.93760 IDUM67
(2.35)

+ 14.41070 IDUM72
(2.69)

+ sum(i=1,2)b(i) IKSVNCC(-i)

i	b(i)	t(i)
1	+.79418	(12.09)
2	-.78509	(12.40)

sum +.00909 (2.11)
(3,2,BOTH)

$\bar{R}^2 = .917$

SEE = 4.808

D.W. = 2.174

Equation No.: 772

Name: Investment College and University Education --
Building Construction

Mnemonic: ISVHGEDC806

Period: 1956-74

ISVHGEDC806

= - 302.96700
(5.63)

+ .47130 XSVHGED806
(1.83)

+ 30.09830 IDUMMY65
(2.01)

+ 40.96230 IDUMMY71
(2.57)

+ sum(i=3,4)b(i) (PXSVMHGED806(-i) / IUCSVMHGEDC806(-i))

+ sum(i=1,5)c(i) IKSVMHGEDC806(-i)

i	b(i)	t(i)	c(i)	t(i)
1			+.03437	(0.68)
2			-.00018	(0.00)
3	+22.54140	(2.16)	-.06227	(2.63)
4	+33.01970	(2.59)	-.11052	(6.08)
5			-.10356	(3.53)

sum	+55.56110	(8.92)	-.24216	(2.63)
	(3,2,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .986$

SEE = 12.017

D.W. = 2.777

Equation No.: 774

Name: Investment Real Estate Commissions -- Non-residential
Construction

Mnemonic: IREC.NR

Period: 1960-76

IREC.NR

```
= + 43.44830
   (3.87)

+ .00010798 ((IKAGFTC(-1) + IKCNSTC(-1) + IKCOMMC543.8(-1)
   (1.78)      + IKFIREC701.37(-1) + IKFSTYC31.9(-1)
               + IKMFC(-1) + IKMIC(-1) + KSVCMC(-1)
               + IKSVHGEDC806(-1) + KSVNCC(-1)
               + IKTRADC602.99(-1) + IKTRSPC501.27(-1)
               + IKUTILC572.9(-1)) * R.REC.NR)

- 293.14200 IDUM710N
   (8.48)

+ .00116479 ((IKAGFTC(-1) + IKCNSTC(-1) + IKCOMMC543.8(-1)
   (8.62)      + IKFIREC701.37(-1) + IKFSTYC31.9(-1)
               + IKMFC(-1) + IKMIC(-1) + KSVCMC(-1)
               + IKSVHGEDC806(-1) + KSVNCC(-1)
               + IKTRADC602.99(-1) + IKTRSPC501.27(-1)
               + IKUTILC572.9(-1))
               * R.REC.NR * IDUM710N)
```

$\bar{R}^2 = .931$

SEE = 5.943

D.W. = 1.956

BUSINESS FIXED INVESTMENT IN MACHINERY AND EQUIPMENT

Business fixed investment in machinery and equipment influences GNE and production levels by industry in a way similar to business fixed investment in nonresidential construction. The disaggregation level for business fixed investment in machinery and equipment is identical to that associated with construction. Investment has been disaggregated by purchasing industry with the aggregate totalling to the GNE National Accounts concept after adjusting for the sale of used assets. The disaggregated concepts influence production levels by way of final demand conversion. Furthermore, certain of the investment categories influence import activity directly.

The specification used in the estimation of the equations associated with business fixed investment in machinery and equipment is similar to that used for construction. Industry specific real output, user cost, industry prices and lagged capital stock variables all play a major role in influencing the investment decision. The major policy handles which influence industry specific user cost will be discussed in the section on user cost. Although the specifications are similar, we expect the lags associated with machinery and equipment to be shorter than those associated with construction. For this reason, we have devoted effort to differentiating the lags associated

with business fixed investment in construction goods versus the lags associated with business fixed investment in machinery and equipment.

In summary, the investment equations for machinery and equipment have been disaggregated by purchasing industry. Upon aggregation, industry specific activity totals to the National Accounts concept in the GNE expenditure identity. Disaggregated investment activity influences production levels via final demand conversion. Specific investment variables for machinery and equipment enter directly into certain import equations. Industry specific indicators of output, user cost, capital stock and industry price, along with the dynamics, all influence the investment decision.

VARIABLES DETERMINED OUTSIDE THE BUSINESS FIXED INVESTMENT - MACH & EQUIP BLOCK

AVE WKLY HRS - AGRIC, FISH & TRAP INDST	HAGFT1.21+41.7
AVE WKLY HRS - COMMUNICATION & TRANSP INDST	HCOMM+TRSP
AVE WKLY HRS - MANUFACTURING TOTAL	HMF
AVE WKLY HRS - MINING TOTAL	HMI
AVE WKLY HRS - SERVICES	HSV
AVE WKLY HRS - WHOLESALE & RETAIL TRADE INDST	HTRAD602.99
AVE WKLY HRS - UTILITY INDST	HUTIL572.79
CAP STK AGRIC FISH & TRAP INDST - MACH & EQUIP	IKAGFTM
CAP STK CONSTRUCTION INDST - MACH & EQUIP	IKCNSTM
CAP STK COMMUNICATION INDST - MACH & EQUIP	IKCOMM543.8
CAP STK FIN INS & REAL ESTATE INDST - MACH & EQUIP	IKFIREM701.37
CAP STK FORESTRY INDST - MACH & EQUIP	IKFSTM31.9
CAP STK WOOD INDST - M&E & CICOE	IKMFD251.9
CAP STK FURN & FIXT INDST - M&E & CICOE	IKMFD261.8
CAP STK IRON & STEEL INDST - M&E & CICOE	IKMFD291.4
CAP STK NONFERROUS METALS - M&E & CICOE	IKMFD295.8
CAP STK METAL FAB INDST - M&E & CICOE	IKMFD301.9
CAP STK MACH (EX ELEC MACH) INDST - M&E & CICOE	IKMFD311.8
CAP STK NONAUTO TRANSPORT EQUIP - M&E & CICOE	IKMFD321+326.9
CAP STK MOT VEH (EX PARTS & ACC) INDST - M&E & CICOE	IKMFD323.4
CAP STK MOT VEH PARTS & ACC INDST - M&E & CICOE	IKMFD325
CAP STK ELECTRICAL PROD INDST - M&E & CICOE	IKMFD331.9
CAP STK NON METAL MIN PROD INDST - M&E & CICOE	IKMFD351.9
CAP STK MANUFACTURING TOTAL - MACH & EQUIP	IKMFM
CAP STK FOOD & BEV INDST - M&E & CICOE	IKMENDM101.9
CAP STK TOBACCO PROD INDST - M&E & CICOE	IKMENDM151.3
CAP STK RUBBER & PLASTICS PROD INDST - M&E & CICOE	IKMENDM162.5
CAP STK LEATHER INDST - M&E & CICOE	IKMENDM172.9
CAP STK TEXTILE INDST - M&E & CICOE	IKMENDM181.9
CAP STK KNITTING & CLOTHING INDST - M&E & CICOE	IKMENDM231.49
CAP STK PAPER & ALLIED INDST - M&E & CICOE	IKMENDM271.4
CAP STK PRINT PUB & ALLIED INDST - M&E & CICOE	IKMENDM286.9
CAP STK PET & COAL PROD INDST - M&E & CICOE	IKMENDM365.9
CAP STK CHEM & CHEM PROD INDST - M&E & CICOE	IKMENDM372.9
CAP STK MISC MANUFACTURING INDST - M&E & CICOE	IKMENDM391.9
CAP STK COAL MIN INDST - M&E & CICOE	IKMICLM61
CAP STK MINING TOTAL - MACH & EQUIP	IKMIM
CAP STK METAL MINING INDST - MACH & EQUIP	IKMIMM51.9
CAP STK NON METAL MIN (EX COAL) INDST - M&E & CICOE	IKMINMM71.87
CAP STK CRD PET NATL GAS & SERV - MACH & EQUIP	IKMIPM64+96.9
CAP STK COMMERCIAL SRVS INDST - MACH & EQUIP	IKSVCMM

CAP STK COLLEGE & UNIV EDUC INDST - MACH & EQUIP
CAP STK OTHER NONCOMMERCIAL SRVS INDST - MACH & EQUIP
CAP STK WHOLESALE & RETAIL TRADE INDST - M&E & CICOE
CAP STK TRANSPORT INDST - M&E & CICOE
CAP STK UTILITY INDST - M&E & CICOE
USER COST AGRIC FISH & TRAP INDST - MACH & EQUIP
USER COST CONSTRUCTION INDST - MACH & EQUIP
USER COST COMMUNICATION INDST - MACH & EQUIP
USER COST FIN INS & REAL ESTATE INDST - MACH & EQUIP
USER COST FORESTRY INDST - MACH & EQUIP
USER COST WOOD INDST - M&E & CICOE
USER COST FURN & FIXT INDST - M&E & CICOE
USER COST IRON & STEEL INDST - MACH & EQUIP
USER COST NONFERROUS METALS - MACH & EQUIP
USER COST METAL FAB INDST - M&E & CICOE
USER COST MACH (EX ELEC MACH) INDST - M&E & CICOE
USER COST NONAUTO TRANSPORT EQUIP - M&E & CICOE
USER COST MOT VEH (EX PARTS & ACC) INDST - M&E & CICOE
USER COST ELECTRICAL PROD INDST - M&E & CICOE
USER COST NON METAL MIN PROD INDST - M&E & CICOE
USER COST FOOD & BEV INDST - M&E & CICOE
USER COST TOBACCO PROD INDST - M&E & CICOE
USER COST RUBBER & PLASTICS PROD INDST - M&E & CICOE
USER COST LEATHER INDST - M&E & CICOE
USER COST TEXTILE INDST - M&E & CICOE
USER COST KNITTING & CLOTHING INDST - M&E & CICOE
USER COST PAPER & ALLIED INDST - M&E & CICOE
USER COST PRINT PUB & ALLIED INDST - M&E & CICOE
USER COST PET & COAL PROD INDST - M&E & CICOE
USER COST CHEM & CHEM PROD INDST - M&E & CICOE
USER COST COAL MINING INDST - M&E & CICOE
USER COST METAL MINING INDST - MACH & EQUIP
USER COST CRD PET NATL GAS & SERV INDST - MACH & EQUIP
USER COST COMMERCIAL SRVS INDST - MACH & EQUIP
USER COST COLLEGE & UNIV EDUC - MACH & EQUIP
USER COST OTHER NONCOMMERCIAL SRVS INDST - MACH & EQUIP
USER COST WHOLESALE & RETAIL TRADE INDST - M&E & CICOE
USER COST UTILITY INDST - M&E & CICOE
SECTOR DEFLECTOR, AGRIC FISH & TRAP INDST
SECTOR DEFLECTOR, CONSTRUCTION INDST
SECTOR DEFLECTOR, COMMUNICATION INDST
SECTOR DEFLECTOR, FIN INS & REAL ESTATE INDST
SECTOR DEFLECTOR, FORESTRY INDST
SECTOR DEFLECTOR, WOOD INDST
SECTOR DEFLECTOR, FURNITURE & FIXTURE INDST
SECTOR DEFLECTOR, IRON & STEEL INDST
SECTOR DEFLECTOR, NONFERROUS METAL INDST
SECTOR DEFLECTOR, METAL FAB INDST
SECTOR DEFLECTOR, MACH (EX ELEC MACH) INDST
SECTOR DEFLECTOR, NONAUTO TRANSPORT EQUIP INDST

IKSVHGEDM806
IKSVNMC
IKTRADM602.99
IKTRSPM501.27
IKUTILM572.9
IUCAGFTM
IUCNSTM
IUCOMMM543.8
IUCFIREM701.37
IUCFSTYM31.9
IUCFMDM251.9
IUCFMDM261.8
IUCFMDM291.4
IUCFMDM295.8
IUCFMDM301.9
IUCFMDM311.8
IUCFMDM321+26.9
IUCFMDM323.4
IUCFMDM331.9
IUCFMDM351.9
IUCFMDM101.9
IUCFMDM151.3
IUCFMDM162.5
IUCFMDM172.9
IUCFMDM181.9
IUCFMDM231.49
IUCFMDM271.4
IUCFMDM286.9
IUCFMDM365.9
IUCFMDM372.9
IUCMICLM61
IUCMIMMM51.9
IUCMIPM64+96.9
IUCSVCM
IUCSVNMC
IUCSVHGEDM806
IUCTRADM602.99
IUCTRSPM501.27
IUCUTILM572.9
PXAGFT1.21+41.7
PXCNST404.21
PXCOMM543.48
PXFIRE701.37
PXFSTY31.9
PXMEDR251.59
PXMEDR261.68
PXMEDR291.94
PXMEDR295.98
PXMEDR301.09
PXMEDR311.18
PXMEDR321+26.9

SECTOR DEFLATOR, MOT VEH INDST (EX PARTS & ACC)	XMEDR323.24
SECTOR DEFLATOR, ELECTRICAL PROD INDST	PXMEDR331.39
SECTOR DEFLATOR, NON METALLIC MIN PROD INDST	PXMEDR351.59
SECTOR DEFLATOR, FOOD & BEV INDST	PXMEND101.09
SECTOR DEFLATOR, TOBACCO PROD INDST	PXMEND151.53
SECTOR DEFLATOR, RUBBER & PLASTICS PROD INDST	PXMEND162.65
SECTOR DEFLATOR, LEATHER INDST	PXMEND172.79
SECTOR DEFLATOR, TEXTILE INDST	PXMEND181.89
SECTOR DEFLATOR, KNITTING MILLS & CLOTHING INDST	PXMEND231.49
SECTOR DEFLATOR, PAPER & ALLIED INDST	PXMEND271.74
SECTOR DEFLATOR, PRINTING PUB & ALLIED INDST	PXMEND286.89
SECTOR DEFLATOR, PET & COAL PROD INDST	PXMEND365.69
SECTOR DEFLATOR, CHEM & CHEM PROD INDST	PXMEND372.79
SECTOR DEFLATOR, COAL MINING INDST	PXMICL61
SECTOR DEFLATOR, CRD PET NATL GAS&SERV INDST	PXMICP64+96.9
SECTOR DEFLATOR, METAL MINING INDST	PXMIMM51.9
SECTOR DEFLATOR, COMMERCIAL SERVICES INDST	PXSVCN
SECTOR DEFLATOR, COLLEGE & UNIV EDUC	PXSVHGED806
SECTOR DEFLATOR, OTHER NONCOMMERCIAL SRVS INDST	PXSVCN
SECTOR DEFLATOR, WHOLESALE & RETAIL TRADE INDST	PXTRAD602.99
SECTOR DEFLATOR, TRANSPORTATION INDST	PXTRSP501.27
SECTOR DEFLATOR, UTILITY INDST	PXUTIL572.79
RDP, AGRIC FISH & TRAP INDST	XAGFTL.21+41.7
RDP, CONSTRUCTION INDST	XCNST404.21
RDP, COMMUNICATION INDST	XCOMM543.48
RDP, FIN INS & REAL ESTATE INDST	XFIRE701.37
RDP, FORESTRY INDST	XFSTV31.9
RDP, WOOD INDST	XMEDR251.59
RDP, FURNITURE & FIXTURE INDST	XMEDR261.68
RDP, IRON & STEEL INDST	XMEDR291.94
RDP, NONFERROUS METAL INDST	XMEDR295.98
RDP, METAL FABRICATING INDST	XMEDR301.09
RDP, MACHINERY (EX ELEC MACH) INDST	XMEDR311.18
RDP, NONAUTO TRANSPORT EQUIP INDST	XMEDR321+26.9
RDP, MOT VEH INDST (EX PARTS & ACC)	XMEDR323.24
RDP, ELECTRICAL PROD INDST	XMEDR331.39
RDP, NON METALLIC MIN PROD INDST	XMEDR351.59
RDP, FOOD & BEV INDST	XMEND101.09
RDP, TOBACCO PROD INDST	XMEND151.53
RDP, RUBBER & PLASTICS PROD INDST	XMEND162.65
RDP, LEATHER INDST	XMEND172.79
RDP, TEXTILE INDST	XMEND181.89
RDP, KNITTING MILLS & CLOTHING INDST	XMEND231.49
RDP, PAPER & ALLIED INDST	XMEND271.74
RDP, PRINTING PUB & ALLIED INDST	XMEND286.89
RDP, PET & COAL PROD INDST	XMEND365.69
RDP, CHEM & CHEM PROD INDST	XMEND372.79
RDP, MISC MANUFACTURING INDST	XMEND391.99
RDP, CRD PET NATL GAS & SERV INDST	XMICP64+96.9
RDP, METAL MINING INDST	XMIMM51.9
RDP, NON METAL MINING (EX COAL) INDST	XMINM71.87

RDP, COMMERCIAL SERVICES INDST
RDP, COLLEGE & UNIV EDUC
RDP, OTHER NONCOMMERCIAL SERVICES INDST
RDP, WHOLESALE & RETAIL TRADE INDST
RDP, TRANSPORTATION INDST
RDP, UTILITY INDST

XSVCM
XSVHGED806
XSVNC
XTRADG02.99
XTRSP501.27
XUTIL572.79

VARIABLES EXOGENOUS TO THE BUSINESS FIXED INVESTMENT MACH & EQUIP BLOCK

INV ACCOUNTING CHK - BUSINESS M&E & CICOE	IBMCHK	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY59	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY65	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY66	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY67	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY68	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY69	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY70	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY71	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY73	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUMMY74	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUM6566	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUM690N	E
DUMMY VARIABLE - BUSINESS FIXED INVST BLOCK	IDUM7475	E
INV ADJUSTING ENTRY PRIMARY METAL - M&E & CICOE	IMFDM291.8CHK	E
INV ADJUSTING ENTRY TRANSPORT EQUIP - M&E & CICOE	IMFDM321.9CHK	E
INV ADJUSTING ENTRY MINING - M&E & CICOE	IMIMCHK	E

INV AGRIC FISH & TRAP INDST - MACH & EQUIP	IAGFTM	B	
INV FORESTRY INDST - MACH & EQUIP	IFSTYM31.9	B	
INV COAL MINING - MACH & EQUIP	IMICLM61	B	
INV CRD PET NATL GAS & SERV INC TO MIN IND - MACH&EQUIP	IMIPM64+96.9	B	
INV METAL MIN INDST - MACH & EQUIP	IMIMMMS1.9	B	
INV NONMETAL MINING (EX COAL) - MACH & EQUIP	IMINMM71.87	B	
INV MINING TOTAL - MACH & EQUIP	IMIM	=	IMIMCHK + IMICLM61 + IMIPM64+96.9 + IMIMMMS1.9 + IMINMM71.87
INV WOOD INDST - M&E & CICOE	IMFDM251.9	B	
INV FURNITURE & FIXTURE INDST - MACH & EQUIP & CICOE	IMFDM261.8	B	
INV IRON & STEEL INDST - M&E & CICOE	IMFDM291.4	B	
INV NONFERROUS METALS - M&E & CICOE	IMFDM295.8	B	
INV PRIMARY METAL INDST - M&E & CICOE	IMFDM291.8	=	IMFDM291.8CHK + IMFDM291.4 + IMFDM295.8
INV METAL FAB INDST - M&E & CICOE	IMFDM301.9	B	
INV MACH (EX ELEC MACH) - M&E & CICOE	IMFDM311.8	B	
INV NONAUTO TRANSPORT EQUIP - M&E & CICOE	IMFDM321+326.9	B	
INV MOT VEH (EX PARTS & ACC) - M&E & CICOE	IMFDM323.4	B	
INV MOT VEH PARTS & ACC - M&E & CICOE	IMFDM325	B	
INV TRANSPORT EQUIP INDST - M&E & CICOE	IMFDM321.9	=	IMFDM321.9CHK + IMFDM321+326.9 + IMFDM323.4 + IMFDM325
INV ELECTRICAL PROD INDST - M&E & CICOE	IMFDM331.9	B	
INV NONMETAL MINING PROD INDST - M&E & CICOE	IMFDM351.9	B	
INV MANUF DURABLE TOTAL - MACH & EQUIP	IMFDM	=	IMFDM251.9 + IMFDM261.8 + IMFDM291.8 + IMFDM301.9 + IMFDM311.8 + IMFDM321.9 + IMFDM331.9 + IMFDM351.9
INV FOOD & BEV INDST - M&E & CICOE	IMFNDM101.9	B	
INV TOBACCO PROD INDST - M&E & CICOE	IMFNDM151.3	B	
INV RUBBER & PLASTICS PROD INDST - M&E & CICOE	IMFNDM162.5	B	
INV LEATHER INDST - M&E & CICOE	IMFNDM172.9	B	
INV TEXTILE INDST - M&E & CICOE	IMFNDM181.9	B	
INV KNITTING & CLOTHING INDST - M&E & CICOE	IMFNDM231.49	B	
INV PAPER & ALLIED INDST - M&E & CICOE	IMFNDM271.4	B	
INV PRINT, PUB & ALLIED INDST - M&E & CICOE	IMFNDM286.9	B	
INV PET & COAL PROD INDST - M&E & CICOE	IMFNDM365.9	B	
INV CHEM & CHEM PROD INDST - M&E & CICOE	IMFNDM372.9	B	
INV MISC MANUF INDST - MACH & EQUIP	IMFNDM391.9	B	
INV MANUF NONDURABLE TOTAL - M&E & CICOE	IMFNDM	=	IMFNDM101.9 + IMFNDM151.3 + IMFNDM162.5 + IMFNDM172.9 + IMFNDM181.9 + IMFNDM231.49 + IMFNDM271.4 + IMFNDM286.9 + IMFNDM365.9 + IMFNDM372.9 + IMFNDM391.9
INV MANUF TOTAL - M&E & CICOE	IMFM	=	IMFDM + IMFNDM
INV CONSTRUCTION INDST - MACH & EQUIP	ICNSTM	B	
INV TRANSPORT INDST - M&E & CICOE	ITRSPM501.27	B	
INV COMMUNICATION INDST - MACH & EQUIP	ICOMMM543.8	B	
INV FIN INS & REAL ESTATE INDST - MACH & EQUIP	IFIREM701.37	B	
INV UTILITY INDST - M&E & CICOE	IUTILM572.9	B	
INV WHOLESALE & RETAIL TRADE INDST - M&E & CICOE	ITRADM602.99	B	

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B = IAGFTM + IESTVM31.9 + IMTM + IMPM + ICNSTM
B + ITRSPM501.27 + ICOMMS54.8 + IFIREM701.37
B + ITUILM572.9 + ITRADM602.99 + ISVCMM
B + ISVNCM + ISVHGEDM806
B IINVM - ISUA + IBMCHK

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Equation No.: 777

Name: Investment Agriculture, Fishing and Trapping Industry --
Machinery and Equipment

Mnemonic: IAGFTM

Period: 1952-74

IAGFTM

= + 126.42700
(1.20)

+ sum(i=0,2)b(i) ((PXAGFT1.21+41.7(-i) * XAGFT1.21+41.7(-i)
/ IUCAGFTM(-i)) - (PXAGFT1.21+41.7(-i-1) *
XAGFT1.21+41.7(-i-1) / IUCAGFTM(-i-1)))

+ sum(i=1,2)c(i) IKAGFTM(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.03880	(6.40)		
1	+.03134	(5.72)	+.85447	(7.47)
2	+.00821	(1.00)	-.72100	(6.09)
sum	+.07835	(5.72)	+.13347	(5.19)
	(3,3,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .914$

SEE = 61.704

D.W. = 2.107

Equation No.: 778

Name: Investment Forestry Industry -- Machinery and Equipment

Mnemonic: IFSTYM31.9

Period: 1955-74

IFSTYM31.9

= - 9.72261
(0.84)

+ .03313 ((PXFSTY31.9 * XFSTY31.9 / IUCFSTYM31.9)
(2.47) - (PXFSTY31.9(-1) * XFSTY31.9(-1) /
IUCFSTYM31.9(-1)))

+ sum(i=1,2)b(i) IKFSTYM31.9(-i)

i	b(i)	t(i)
1	+.94173	(4.43)
2	-.65256	(2.61)

sum +.28917 (4.05)

(3,2,BOTH)

$\bar{R}^2 = .808$

SEE = 10.934

D.W. = 1.554

Equation No.: 780

Name: Investment Coal Mining Industry -- Machinery and Equipment

Mnemonic: IMICLM61

Period: 1952-74

IMICLM61

= - .92065
(0.13)

+ 42.93410 IDUM690N
(8.99)

- .23509 IKMICLM61(-1)
(4.01)

+ sum(i=0,1)b(i) (PXMICL61(-i) / IUCMICLM61(-i))

i	b(i)	t(i)
---	------	------

0	+1.94270	(2.78)
---	----------	--------

1	+1.94270	(2.78)
---	----------	--------

sum	+3.88540	(2.78)
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(2,2,BOTH)

$\bar{R}^2 = .835$

SEE = 5.626

D.W. = 2.370

Equation No.: 781

Name: Investment Crude Petroleum, Natural Gas and Services
Incidental to Mining Industry -- Machinery and Equipment

Mnemonic: IMIPM64+96.9

Period: 1954-75

IMIPM64+96.9

= - 127.39600
(3.71)

- 27.83350 IDUMMY65
(2.70)

+ sum(i=2,3)b(i) (PXMICP64+96.9(-i) / IUCMIPM64+96.9(-i))

+ sum(i=1,5)c(i) XMICP64+96.9(-i)

+ sum(i=1,4)d(i) IKMIPM64+96.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
1			+.03703	(1.27)	-.29713	(3.09)
2	+ 6.94059	(1.75)	+.05544	(2.46)	-.19109	(3.23)
3	+13.57170	(2.59)	+.05809	(5.27)	+.06350	(1.17)
4			+.04783	(1.57)	+.21207	(2.30)
5			+.02752	(0.80)		
sum	+20.51230	(5.86)	+.22591	(5.27)	-.21265	(1.90)
	(3,2,BOTH)		(3,5,BOTH)		(3,4,BOTH)	

$\overline{R}^2 = .922$

SEE = 9.411

D.W. = 2.168

Equation No.: 782

Name: Investment Metal Mining Industry -- Machinery and Equipment

Mnemonic: IMIMMM51.9

Period: 1954-74

IMIMMM51.9

= - 598.93900
(4.98)

+ 54.49030 (PXMIMM51.9(-1) / IUCMIMMM51.9(-1))
(4.79)

+ 102.49400 IDUMMY59
(2.45)

+ sum(i=0,4)b(i) XMIMM51.9(-i)

+ sum(i=1,2)c(i) IKMIMMM51.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.18652	(3.04)		
1	+.25453	(4.20)	+ .50910	(3.45)
2	+.23697	(6.18)	-1.21880	(5.87)
3	+.16674	(3.63)		
4	+.07678	(1.52)		

sum +.92154 (6.18) - .70970 (5.22)

(3,5,BOTH)

(3,2,BOTH)

$\bar{R}^2 = .795$

SEE = 30.892

D.W. = 2.112

Equation No.: 783

Name: Investment Nonmetal Mining (Excluding Coal) Industry --
Machinery and Equipment

Mnemonic: IMINMM71.87

Period: 1954-75

IMINMM71.87

= - 21.91070
(2.53)

- 25.47010 IDUMMY65
(2.41)

+ sum(i=1,5)b(i) XM INM71.87(-i)

+ sum(i=1,3)c(i) IKM INMM71.87(-i)

i	b(i)	t(i)	c(i)	t(i)
1	+.35936	(3.84)	+.03067	(0.40)
2	+.39181	(5.60)	-.19905	(4.04)
3	+.23471	(4.22)	-.32924	(4.26)
4	+.02546	(0.21)		
5	-.09857	(0.76)		

sum +.91277 (4.22) -.49762 (4.04)

(3,5,BOTH)

(3,3,BOTH)

$\bar{R}^2 = .856$

SEE = 9.679

D.W. = 1.980

Equation No.: 785

Name: Investment Wood Industry -- Machinery and Equipment and CICOE

Mnemonic: IMFDM251.9

Period: 1952-74

IMFDM251.9

= + 15.89640
(2.28)

+ 67.83930 IDUM690N
(8.83)

+ sum(i=0,2)b(i) ((PXMFR251.59(-i) * XMFDR251.59(-i)
/ IUCMFDM251.9(-i)) - (PXMFR251.59(-i-1)
* XMFDR251.59(-i-1) / IUCMFDM251.9(-i-1)))

+ sum(i=1,2)c(i) IKMFDM251.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.01038	(4.20)		
1	+.01899	(7.77)	-.14641	(1.06)
2	+.01810	(4.80)	+.25591	(1.73)
sum	+.04747	(7.77)	+.10949	(5.22)

(3,3,BOTH)

(3,2,BOTH)

$\bar{R}^2 = .984$

SEE = 6.599

D.W. = 1.770

Equation No.: 786

Name: Investment Furniture and Fixtures Industry -- Machinery
and Equipment and CICOE

Mnemonic: IMFDM261.8

Period: 1954-74

IMFDM261.8

= - 4.74546
(5.57)

+ .18326 IKMFDM261.8(-1)
(15.06)

+ sum(i=0,4)b(i) ((PKMFDR261.68(-i) * XMFDR261.68(-i)
/ IUCMFDM261.8(-i)) - (PKMFDR261.68(-i-1)
* XMFDR261.68(-i-1) / IUCMFDM261.8(-i-1)))

i	b(i)	t(i)
0	+.00746	(4.10)
1	+.01342	(7.40)
2	+.01016	(7.45)
3	+.00566	(2.42)
4	+.00791	(2.68)

sum +.04462 (6.73)

(3,5,NONE)

$\overline{R}^2 = .962$

SEE = .987

D.W. = 1.863

Equation No.: 788

Name: Investment Iron and Steel Industry -- Machinery and Equipment
and CICOE

Mnemonic: IMFDM291.4

Period: 1953-74

IMFDM291.4

= + 25.61090
(1.31)

+ 62.24260 IDUMMY70
(1.82)

+ sum(i=0,3)b(i) ((PXMFD291.94(-i) * XMFDR291.94(-i)
/ IUCMFDM291.4(-i)) - (PXMFD291.94(-i-1)
* XMFDR291.94(-i-1) / IUCMFDM291.4(-i-1)))

+ sum(i=1,4)c(i) IKMFDM291.4(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.03942	(5.71)		
1	+.05913	(5.71)	+.02696	(6.20)
2	+.05913	(5.71)	+.04043	(6.20)
3	+.03942	(5.71)	+.04043	(6.20)
4			+.02696	(6.20)

sum +.19710 (5.71) +.13478 (6.20)

(2,4,BOTH) (2,4,BOTH)

$\bar{R}^2 = .821$

SEE = 30.890

D.W. = 2.184

Equation No.: 789

Name: Investment Nonferrous Metals Industry -- Machinery and
Equipment and CIOE

Mnemonic: IMFDM295.8

Period: 1953-74

IMFDM295.8

= - 456.87000
(4.42)

- .16817 IKMFDM295.8(-1)
(2.17)

+ sum(i=0,4)b(i) (PXMFD295.98(-i) / IUCMFDM295.8(-i))

+ sum(i=0,2)c(i) XMFDR295.98(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+ 6.45932	(2.50)	+.27425	(1.51)
1	+10.24170	(3.83)	+.33677	(5.37)
2	+11.41710	(4.52)	+.23090	(1.12)
3	+10.05540	(3.06)		
4	+ 6.22639	(2.02)		

sum	+44.4000	(4.52)	+.84192	(5.37)
	(3,5,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .768$

SEE = 17.953

D.W. = 1.937

Equation No.: 791

Name: Investment Metal Fabricating Industry -- Machinery and
Equipment and CICOE

Mnemonic: IMFDM301.9

Period: 1954-74

IMFDM301.9

= - 164.03100
(3.53)

+ sum(i=1,5)b(i) (PXMFD301.09(-i) / IUCMFD301.9(-i))

+ sum(i=0,5)c(i) XMFDR301.09(-i)

+ sum(i=1,3)d(i) IKMFD301.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.04237	(5.60)		
1	+ 2.89600	(1.31)	+.07514	(8.34)	-.59391	(3.77)
2	+ 4.80869	(2.41)	+.09559	(6.79)	-.25905	(4.66)
3	+ 5.60674	(3.94)	+.10101	(4.64)	+.20533	(1.98)
4	+ 5.15885	(2.25)	+.08869	(3.47)		
5	+ 3.33371	(1.38)	+.05593	(2.79)		
sum	+21.80400	(3.94)	+.45872	(5.57)	-.64763	(4.66)
	(3,5,BOTH)		(3,6,BOTH)		(3,3,BOTH)	

$\overline{R}^2 = .969$

SEE = 5.525

D.W. = 2.213

Equation No.: 792

Name: Investment Machinery (Excluding Electrical Machinery)
Industry -- Machinery and Equipment and CICE

Mnemonic: IMFDM311.8

Period: 1955-74

IMFDM311.8

= + 7.45229
(1.86)

+ .12206 IKMFDM311.8(-1)
(7.04)

+ sum(i=0,5)b(i) ((PXMFD311.18(-i) * XMFDR311.18(-i)
/ IUCMFDM311.8(-i)) - (PXMFD311.18(-i-1)
* XMFDR311.18(-i-1) / IUCMFDM311.8(-i-1)))

i	b(i)	t(i)
0	+.00451	(2.36)
1	+.00804	(3.33)
2	+.01028	(4.25)
3	+.01090	(4.15)
4	+.00961	(3.38)
5	+.00608	(2.72)

sum +.04942 (4.35)

(3,6,BOTH)

$\bar{R}^2 = .891$

SEE = 4.598

D.W. = 1.801

Equation No.: 794

Name: Investment Nonauto Transport Equipment Industry --
Machinery and Equipment and CICOE

Mnemonic: IMFDM321+326.9

Period: 1951-74

IMFDM321+326.9

= + 8.14858
(1.05)

+ 11.17940 IDUMMY66
(1.45)

+ 17.57250 IDUM7475
(2.15)

+ sum(i=0,1)b(i) ((PXMFD321+26.9(-i) * XMFD321+26.9(-i)
/ IUCMFD321+26.9(-i))
- (PXMFD321+26.9(-i-1) * XMFD321+26.9(-i-1)
/ IUCMFD321+26.9(-i-1)))

+ sum(i=1,2)c(i) IKMFD321+326.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00304	(1.22)		
1	+.00304	(1.22)	+.80505	(3.93)
2			-.74425	(3.80)

sum +.00608 (1.22) +.06080 (2.19)

(2,2,BOTH)

(3,2,BOTH)

$\overline{R}^2 = .542$

SEE = 7.433

D.W. = 1.765

Equation No.: 795

Name: Investment Motor Vehicle (Excluding Parts and Accessories)
Industry -- Machinery and Equipment

Mnemonic: IMFDM323.4

Period: 1953-74

IMFDM323.4

= + 4.61165
(0.12)

+ 25.76250 IDUMMY65
(2.94)

+ sum(i=1,4)b(i) (PXMFD323.24(-i) / IUCMFDM323.4(-i))

+ sum(i=0,1)c(i) XMFDR323.24(-i)

+ sum(i=1,4)d(i) IKMFDM323.4(i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.11251	(3.39)		
1	+1.93239	(1.57)	-.03870	(1.12)	+.01867	(0.30)
2	+1.69006	(1.70)			-.02693	(0.60)
3	+ .48154	(0.78)			-.08188	(1.73)
4	- .48465	(0.58)			-.09122	(1.43)
sum	+3.61934	(1.59)	+ .07382	(3.61)	-.18136	(1.52)
	(3,4,BOTH)		(3,2,BOTH)		(3,4,BOTH)	

$\bar{R}^2 = .652$

SEE = 8.061

D.W. = 2.374

Equation No.: 796

Name: Investment Motor Vehicle Parts and Accessories Industry --
Machinery and Equipment and CIOE

Mnemonic: IMFDM325

Period: 1955-74

IMFDM325

= + 19.80870
(2.72)

+ .28380 XMFDR323.24(-1)
(3.38)

+ 47.54760 IDUM6566
(3.39)

+ 64.32960 IDUMMY70
(3.30)

+ sum(i=1,2)b(i) IKMFDM325(-i)

i	b(i)	t(i)
1	+.23269	(2.38)
2	-.55571	(3.35)
sum	-.32302	(2.58)

(3,2,BOTH)

$\bar{R}^2 = .904$

SEE = 13.814

D.W. = 2.396

Equation No.: 798

Name: Investment Electrical Products Industry -- Machinery and
Equipment and CICOE

Mnemonic: IMFDM331.9

Period: 1954-74

IMFDM331.9

= - 36.2270
(0.95)

+ sum(i=1,5)b(i) (PKMFDR331.39(-i) / IUCMFDM331.9(-i))

+ sum(i=0,4)c(i) XMFDR331.39(-i)

+ sum(i=1,4)d(i) IKMFDM331.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+ .01768	(1.44)		
1	+4.61870	(2.69)	+ .04634	(4.67)	- .45581	(3.77)
2	+4.77131	(3.44)	+ .07244	(5.68)	- .32294	(4.09)
3	+2.42179	(3.21)	+ .08244	(3.77)	+ .03782	(1.00)
4	- .46590	(0.26)	+ .06281	(2.97)	+ .26572	(2.93)
5	-1.92782	(0.98)				
sum	9.41808	(3.21)	+ .28171	(5.68)	- .47521	(4.32)
	(3,5,BOTH)		(3,5,BOTH)		(3,4,BOTH)	

$\overline{R}^2 = .935$

SEE = 5.639

D.W. = 2.476

Equation No.: 799

Name: Investment Nonmetal Mineral Products Industry -- Machinery
and Equipment and CICIOE

Mnemonic: IMFDM351.9

Period: 1953-74

IMFDM351.9

= - 478.06300
(4.39)

+ 52.47850 (PXMFD351.59(-2) / IUCMFD351.9(-2))
(4.24)

+ 39.59900 IDUMMY70
(2.62)

+ sum(i=0,4)b(i) XMFD351.59(-i)

+ sum(i=1,2)c(i) IKMFD351.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.13206	(2.84)		
1	+.21101	(5.59)	-.72744	(4.16)
2	+.23705	(5.03)	+.38597	(2.15)
3	+.21042	(2.61)		
4	+.13133	(1.68)		

sum +.92187 (5.03) -.34147 (2.47)

(3,5,BOTH)

(3,2,BOTH)

$\bar{R}^2 = .852$

SEE = 13.208

D.W. = 2.223

Equation No.: 801

Name: Investment Food and Beverage Industry -- Machinery and
Equipment and CICOE

Mnemonic: IMFNDM101.9

Period: 1956-74

IMFNDM101.9

= - 2.12735
(0.04)

+ 4.11861 (PXM FND101.09(-2) / IUCM FNDM101.9(-2))
(1.00)

+ 23.14870 IDUMMY67
(2.73)

+ sum(i=1,3)b(i) XMFND101.09(-i)

+ sum(i=1,2)c(i) IKM FNDM101.9(-i)

i	b(i)	t(i)	c(i)	t(i)
1	-.03642	(0.64)	-.13216	(2.30)
2	+.11542	(3.61)	-.13216	(2.30)
3	+.20956	(2.92)		

sum +.28856 (3.61) -.26432 (2.30)

(3,3,BOTH)

(2,2,BOTH)

$\bar{R}^2 = .965$

SEE = 7.648

D.W. = 2.668

Equation No.: 802

Name: Investment Tobacco Products Industry -- Machinery and
Equipment and CICOE

Mnemonic: IMFNDM151.3

Period: 1952-74

IMFNDM151.3

= - 16.3835
(3.09)

+ sum(i=2,3)b(i) (PXM FND 151.53(-i) / IUCM FNDM151.3(-i))

+ sum(i=0,3)c(i) XMFND 151.53(-i)

+ sum(i=1,5)d(i) IKMFNDM151.3(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.19603	(3.43)		
1			+.18181	(6.97)	-.15631	(2.53)
2	- .16498	(0.21)	+.06957	(1.30)	-.20981	(2.97)
3	+1.25991	(2.23)	-.02845	(0.36)	-.19070	(3.46)
4					-.12922	(2.84)
5					-.05558	(1.42)
sum	+1.09493	(1.74)	+.41896	(4.89)	-.74162	(3.46)
	(3,2,BOTH)		(3,4,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .868$

SEE = 1.148

D.W. = 2.605

Equation No.: 803

Name: Investment Rubber and Plastic Products Industry --
Machinery and Equipment and CICOE

Mnemonic: IMFNDM162.5

Period: 1951-74

IMFNDM162.5

= + .45798
(0.10)

+ 27.28870 IDUMMY71
(3.04)

+ sum(i=0,1)b(i) ((PXMFDN162.65(-i) * XMFND162.65(-i) /
IUCMFNDM162.5(-i)) - (PXMFDN162.65(-i-1) *
XMFND162.65(-i-1) / IUCMFNDM162.5(-i-1)))

+ sum(i=1,3)c(i) IKMFNDM162.5(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.01776	(1.63)		
1	+.01389	(1.00)	+.23202	(1.42)
2			+.08458	(4.03)
3			-.10515	(0.55)

sum	+.03165	(1.52)	+.21145	(4.03)
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(3,2,BOTH)

(3,3,BOTH)

$\overline{R}^2 = .914$

SEE = 7.884

D.W. = 1.991

Equation No.: 804

Name: Investment Leather Industry -- Machinery and Equipment
and CICOE

Mnemonic: IMFNDM172.9

Period: 1951-74

IMFNDM172.9

= - 2.11245
(1.24)

+ sum(i=0,1)b(i) ((PXMFDN172.79(-i) * XMFND172.79(-i) /
IUCMFNDM172.9(-i)) - (PXMFDN172.79(-i-1) *
XMFND172.79(-i-1) / IUCMFNDM172.9(-i-1)))

+ sum(i=1,2)c(i) IKMFNDM172.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00381	(1.34)		
1	+.00381	(1.34)	+.39862	(1.89)
2			-.15762	(0.65)
sum	+.00762	(1.34)	+.24099	(4.30)
	(2, 2, BOTH)		(3, 2, BOTH)	

$\bar{R}^2 = .632$

SEE = .974

D.W. = 2.041

Equation No.: 805

Name: Investment Textile Industry -- Machinery and Equipment
and CIOE

Mnemonic: IMFNDM181.9

Period: 1953-74

IMFNDM181.9

= + 96.24500
(3.39)

+ sum(i=0,4)b(i) (PXMEND181.89(-i) / IUCMFNDM181.9(-i))

+ sum(i=0,4)c(i) XMFND181.89(-i)

+ sum(i=1,5)d(i) IKMFNDM181.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+5.29838	(4.82)	+.20969	(3.87)		
1	+4.60072	(5.09)	+.17772	(4.57)	+.06851	(1.49)
2	+ .81455	(3.32)	+.02243	(1.36)	+.03042	(0.70)
3	-3.15263	(3.54)	-.13785	(2.29)	-.05488	(2.85)
4	-4.39332	(4.02)	-.18477	(2.73)	-.12798	(5.25)
5					-.12949	(3.91)
sum	+3.16770	(3.32)	+.08722	(1.36)	-.21341	(2.85)
	(3,5,BOTH)		(3,5,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .918$

SEE = 5.698

D.W. = 2.282

Equation No.: 806

Name: Investment Knitting and Clothing Industry -- Machinery
and Equipment and CIOE

Mnemonic: IMFNDM231.49

Period: 1954-74

IMFNDM231.49

= - 75.54140
(2.71)

- .18512 IKMFNDM231.49(-1)
(1.20)

+ sum(i=1,5)b(i) (PXMFDND231.49(-i) / IUCMFNDM231.49(-i))

+ sum(i=0,1)c(i) XMFND231.49(-i)

i	b(i)	t(i)	c(i)	t(i)
0			+.14080	(4.00)
1	+ .49804	(0.66)	-.012167	(0.34)
2	+1.21522	(1.44)		
3	+1.83777	(2.29)		
4	+2.05194	(2.24)		
5	+1.54394	(1.90)		
sum	+7.14690	(2.29)	+.12863	(2.62)
	(3,5,BOTH)		(3,2,BOTH)	

$\overline{R}^2 = .886$

SEE = 2.190

D.W. = 1.611

Equation No.: 807

Name: Investment Paper and Allied Industry -- Machinery
and Equipment and CICOE

Mnemonic: IMFNDM271.4

Period: 1957-74

IMFNDM271.4

= - 1068.4900
(3.37)

+ 75.18650 IDUMMY66
(1.42)

+ sum(i=3,8)b(i) (PXMFND271.74(-i) / IUCMFNDM271.4(-i))

+ sum(i=0,3)c(i) XMFND271.74(-i)

+ sum(i=1,5)d(i) IKMFNDM271.4(i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	ti
0			+.27716	(1.57)		
1			+.48385	(4.16)	-.38728	(4.69)
2			+.55196	(3.09)	-.36922	(4.77)
3	+54.34970	(3.94)	+.41338	(1.75)	-.13365	(2.97)
4	+60.96120	(3.92)			+.13163	(2.02)
5	+37.60740	(3.68)			+.23878	(3.24)
6	+ 2.06144	(0.37)				
7	-27.90370	(2.97)				
8	-34.51520	(3.48)				
sum	+92.5608	(2.91)	+1.72634	(4.47)	-.51975	(2.97)
	(3,6,BOTH)		(3,4,BOTH)		(3,5,BOTH)	

$\overline{R}^2 = .849$

SEE = 43.511

D.W. = 2.290

Equation No.: 808

Name: Investment Printing, Publishing and Allied Industries --
Machinery and Equipment and CICOE

Mnemonic: IMFNDM286.9

Period: 1952-74

IMFNDM286.9

= + 6.04021
(1.32)

+ sum(i=0,2)b(i) ((PXMFDND286.89(-i) * XMFND286.89(-i) /
IUCMFNDM286.9(-i)) - (PXMFDND286.89(-i-1) *
XMFND286.89(-i-1) / IUCMFNDM286.9(-i-1)))

+ sum(i=1,3)c(i) IKMFNDM286.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00450	(2.59)		
1	+.00600	(2.59)	-.21240	(1.39)
2	+.00450	(2.59)	+.04848	(9.84)
3			+.28511	(1.83)
sum	+.01499	(2.59)	+.12119	(9.84)
	(2,3,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .870$

SEE = 4.395

D.W. = 2.083

Equation No.: 809

Name: Investment Petroleum and Coal Products Industry --
Machinery and Equipment and CICOE

Mnemonic: IMFNDM365.9

Period: 1952-74

IMFNDM365.9

= - 8.33231
(0.44)

+ 40.69610 IDUMMY73
(2.80)

+ sum(i=0,3)b(i) (PXMFDND365.69(-i) / IUCMFNDM365.9(-i))

+ sum(i=0,1)c(i) XMFND365.69(-i)

+ sum(i=1,2)d(i) IKMFNDM365.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+.59902	(1.30)	+.26671	(0.91)		
1	+.67554	(1.77)	-.112836	(0.38)	+.69657	(6.79)
2	+.45256	(1.45)			-.82976	(7.44)
3	+.15305	(0.40)				

sum	+1.88016	(1.92)	+.15388	(2.75)	-.13319	(1.11)
	(3,4,BOTH)		(3,2,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .855$

SEE = 9.463

D.W. = 2.652

Equation No.: 810

Name: Investment Chemical and Chemical Products Industry --
Machinery and Equipment and CICOE

Mnemonic: IMFNDM372.9

Period: 1957-75

IMFNDM372.9

= - 76.53600
(3.04)

+ 64.24570 IDUMMY65
(2.33)

+ sum(i=1,7)b(i) ((PXM FND372.79(-i) * XMFND372.79(-i) /
IUCMFNDM372.9(-i)) - (PXM FND372.79(-i-1) *
XMFND372.79(-i-1) / IUCMFNDM372.9(-i-1)))

+ sum(i=1,2)c(i) IKMFNDM372.9(-i)

i	b(i)	t(i)	c(i)	t(i)
1	+.05733	(6.59)	+.58016	(3.16)
2	+.08120	(5.54)	-.39709	(2.04)
3	+.08016	(4.15)		
4	+.06273	(2.75)		
5	+.03747	(1.55)		
6	+.01290	(0.58)		
7	-.00243	(0.17)		
sum	+.32936	(2.75)	+.18307	(8.10)
	(3,7,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .944$

SEE = 23.578

D.W. = 1.857

Equation No.: 811

Name: Investment Miscellaneous Manufacturing Industry --
Machinery and Equipment and CICOE

Mnemonic: IMFNDM391.9

Period: 1952-74

IMFNDM391.9

= - 2.87827
(1.08)

+ 8.52695 IDUMMY66
(2.77)

+ sum(i=0,1)b(i) XMFND391.99(-i)

+ sum(i=1,5)c(i) IKMFNDM391.9(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.09815	(2.60)		
1	-.02064	(0.47)	+.14303	(3.26)
2			+.09666	(2.38)
3			-.03998	(1.67)
4			-.16774	(4.58)
5			-.18746	(4.56)

sum +.07751 (2.99) -.15548 (1.67)

(3,2,BOTH)

(3,5,BOTH)

$\bar{R}^2 = .901$

SEE = 2.771

D.W. = 2.236

Equation No.: 814

Name: Investment Construction Industry -- Machinery and Equipment

Mnemonic: ICNSTM

Period: 1955-74

ICNSTM

= - 552.57500
(3.18)

+ .141824 XCNST404.21
(5.62)

+ sum(i=1,4)b(i) (PXCNST404.21(-i) / IUCCNSTM(-i))

+ sum(i=1,3)c(i) IKCNSTM(-i)

i	b(i)	t(i)	c(i)	t(i)
1	+10.31910	(0.46)	-.26717	(2.24)
2	+32.39690	(2.76)	-.13082	(4.28)
3	+49.31500	(2.48)	+.07093	(0.76)
4	+44.15550	(1.51)		
sum	+136.18700	(3.94)	-.32706	(4.28)
	(3,4,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .873$

SEE = 22.186

D.W. = 1.877

Equation No.: 815

Name: Investment Transport Industry -- Machinery and Equipment
and CICOE

Mnemonic: ITRSPM501.27

Period: 1957-74

ITRSPM501.27

= + 868.84500
(2.62)

+ 55.91940 (PXTRSP501.27(-2) / IUCTRSPM501.27(-2))
(2.05)

+ 170.37000 IDUMMY73
(5.49)

+ sum(i=2,5)b(i) XTRSP501.27(i)

+ sum(i=1,3)c(i) IKTRSPM501.27(-i)

i	b(i)	t(i)	c(i)	t(i)
1			+.01688	(0.34)
2	+.05796	(1.37)	-.26355	(7.73)
3	+.13562	(7.49)	-.41221	(9.37)
4	+.18430	(5.17)		
5	+.15532	(2.82)		

sum +.53320 (10.75) -.65888 (7.73)

(3,4,BOTH)

(3,3,BOTH)

$\bar{R}^2 = .973$

SEE = 25.445

D.W. = 2.736

Equation No.: 816

Name: Investment Communication Industry -- Machinery and Equipment
and CICOE

Mnemonic: ICOMM543.8

Period: 1955-74

ICOMM543.8

= - 1205.42000
(5.59)

- 27.08280 IDUMMY65
(2.31)

+ sum(i=2,6)b(i) (PXCOMM543.48(-i) / IUCCOMM543.8(-i))

+ sum(i=0,3)c(i) XCOMM543.48(i)

+ sum(i=1,3)d(i) IKCOMM543.8(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.68203	(9.31)		
1			+.69638	(8.91)	-.60913	(4.79)
2	+11.44980	(3.49)	+.36972	(2.49)	-.31977	(4.47)
3	+21.23260	(6.57)	+.02870	(0.18)	+.12948	(1.88)
4	+27.16370	(5.57)				
5	+27.05840	(3.73)				
6	+18.73210	(2.83)				
sum	+105.63700	(5.57)	+1.77683	(5.00)	-.79941	(4.47)
	(3,5,BOTH)		(3,4,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .997$

SEE = 10.245

D.W. = 2.403

Equation No.: 817

Name: Investment Finance, Insurance and Real Estate Industry --
Machinery and Equipment

Mnemonic: IFIREM701.37

Period: 1955-74

IFIREM701.37

= - 361.46600
(4.23)

+ 38.41480 IDUM690N
(3.47)

+ sum(i=2,6)b(i) (PX FIRE701.37(-i) / IU FIREM701.37(-i))

+ sum(i=0,4)c(i) XFIRE701.37(i)

+ sum(i=1,5)d(i) IKFIREM701.37(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.00512	(0.46)		
1			+.01432	(1.61)	-.44122	(4.27)
2	+ .59986	(0.07)	+.02301	(2.85)	-.39864	(4.21)
3	+ 7.86080	(1.06)	+.02658	(1.74)	-.10275	(1.98)
4	+16.60700	(4.70)	+.02044	(1.31)	+.21598	(2.61)
5	+21.66280	(3.11)			+.32706	(3.44)
6	+17.85240	(2.19)				
sum	+64.58290	(4.70)	+.08946	(2.85)	-.39956	(1.98)
	(3,5,BOTH)		(3,5,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .970$

SEE = 7.297

D.W. = 2.863

Equation No.: 818

Name: Investment Utility Industry -- Machinery and Equipment
and CICOE

Mnemonic: IUTILM572.9

Period: 1955-74

IUTILM572.9

= - 1113.41000
(4.76)

+ 81.43140 IDUMMY68
(2.21)

+ 149.70100 IDUMMY69
(3.98)

+ sum(i=1,3)b(i) (PXUTIL572.79(-i) / IUCUTILM572.9(-i))

+ sum(i=0,4)c(i) XUTIL572.79(-i)

+ sum(i=1,3)d(i) IKUTILM572.9(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+1.23125	(5.15)		
1	+49.90440	(3.00)	+1.04184	(5.29)	+.18751	(2.80)
2	+53.97460	(4.54)	+ .12788	(4.42)	-.12213	(3.80)
3	+31.05740	(2.38)	- .81449	(4.55)	-.37070	(5.04)
4			-1.08916	(4.78)		
sum	+134.93600	(4.54)	+ .49732	(4.42)	-.30533	(3.80)
	(3,3,BOTH)		(3,5,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .984$

SEE = 30.570

D.W. = 3.126

Equation No.: 819

Name: Investment Wholesale and Retail Trade Industry --
Machinery and Equipment and CICOE

Mnemonic: ITRADM602.99

Period: 1955-74

ITRADM602.99

= - 5.57626
(0.24)

+ sum(i=0,5)b(i) ((PXTRAD602.99(-i) * XTRAD602.99(-i) /
IUCTRADM602.99(-i)) - (PXTRAD602.99(-i-1) *
XTRAD602.99(-i-1) / IUCTRADM602.99(-i-1)))

+ sum(i=1,2)c(i) IKTRADM602.99(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00283	(2.42)		
1	+.00471	(2.42)	+.40592	(2.13)
2	+.00566	(2.42)	-.26448	(1.36)
3	+.00566	(2.42)		
4	+.00471	(2.42)		
5	+.00283	(2.42)		

sum +.02639 (2.42) +.14144 (10.64)

(2,6,BOTH)

(3,2,BOTH)

$\overline{R}^2 = .913$

SEE = 26.071

D.W. = 2.061

Equation No.: 820

Name: Investment Commercial Services Industry -- Machinery and Equipment

Mnemonic: ISVCMM

Period: 1954-74

ISVCMM

= - 26.87270
(1.14)

+ 108.59100 IDUM690N
(2.76)

+ sum(i=0,1)b(i) ((PXSVCM(-i) * XSVCM(-i) / IUCSVCM(-i))
- (PXSVCM(-i-1) * XSVCM(-i-1) /
IUCSVCM(-i-1)))

+ sum(i=1,2)c(i) IKSVCMM(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00410	(0.29)		
1	+.10382	(4.56)	+.59712	(3.01)
2			-.42734	(1.70)
sum	+.10792	(4.21)	+.16978	(2.68)

(3,2,BOTH)

(3,2,BOTH)

$\bar{R}^2 = .987$

SEE = 33.456

D.W. = 2.318

Equation No.: 821

Name: Investment Other Noncommercial Services Industry --
Machinery and Equipment and CICOE

Mnemonic: ISVNCM

Period: 1953-75

ISVNCM

= + 1.57263
(1.92)

+ sum(i=1,3)b(i) ((PXSVNC(-i) * XSVNC(-i) / IUCSVNCM(-i))
- (PXSVNC(-i-1) * XSVNC(-i-1) /
IUCSVNCM(-i-1)))

+ sum(i=1,5)c(i) IKSVNCM(-i)

i	b(i)	t(i)	c(i)	t(i)
1	-.00001	(0.01)	+.11611	(2.39)
2	+.00251	(2.93)	+.09920	(2.59)
3	+.00378	(3.69)	+.01420	(3.12)
4			-.07396	(1.80)
5			-.10034	(1.99)
sum	+.00629	(2.93)	+.05521	(3.12)
	(3,3,BOTH)		(3,5,BOTH)	

$\overline{R}^2 = .779$

SEE = .895

D.W. = 2.077

Equation No.: 822

Name: Investment College and University Education Industry --
Machinery and Equipment and CICOE

Mnemonic: ISVHGEDM806

Period: 1956-74

ISVHGEDM806

= - 64.9173
(3.78)

+ sum(i=1,7)b(i) (PXSVHGED806(-i) / IUCSVHGEDM806(-i))

+ sum(i=0,4)c(i) XSVHGED806(-i)

+ sum(i=1,4)d(i) IKSVMHGEDM806(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.14339	(8.37)		
1	+ .67707	(4.09)	+.14073	(6.27)	-.26917	(2.82)
2	+1.16069	(4.09)	+.05853	(2.23)	-.22346	(2.63)
3	+1.45086	(4.09)	-.03667	(1.24)	-.04317	(0.81)
4	+1.54758	(4.09)	-.07836	(3.23)	+.09142	(1.59)
5	+1.45086	(4.09)				
6	+1.16069	(4.09)				
7	+ .67707	(4.09)				
sum	+8.12480	(4.09)	+.22763	(2.23)	-.44439	(2.13)
	(2,7,BOTH)		(3,5,BOTH)		(3,4,BOTH)	

$\bar{R}^2 = .995$

SEE = 1.955

D.W. = 2.650

Equation No.: 824

Name: Investment -- Sales of Used Assets

Mnemonic: ISUA

Period: 1958-75

ISUA

= - 9875.33000
(5.62)

+ 116.18700 IDUMMY74
(7.66)

+ sum(i=1,4)b(i) (IKAGFTM(-i) + IKCOMM543.8(-i) + IKMFM(-i)
+ IKMIM(-i) + IKSVCM(-i) + IKTRADM602.99(-i)
+ IKTRSPM501.27(-i) + IKUTILM572.9(-i))

+ sum(i=0,4)c(i) ((HAGFT1.21+41.7(-i) + HCOMM+TRSP(-i) + HMF(-i)
+ HMI(-i) + HSV(-i) + HTRAD602.99(-i) +
HUTIL572.79(-i)) / (0.20 sum(j=0,4)
(HAGFT1.21+41.7(-j-i) + HCOMM+TRSP(-j-i) +
HMF(-j-i) + HMI(-j-i) + HSV(-j-i) +
HUTIL572.79(-j-i) + HTRAD602.99(-j-i))))

i	b(i)	t(i)	c(j)	t(j)
0			+1203.28000	(4.92)
1	-.011827	(2.91)	+2115.48000	(6.42)
2	-.0045257	(2.61)	+2593.92000	(5.73)
3	+.0086891	(3.29)	+2495.93000	(4.47)
4	+.0146026	(3.13)	+1678.85000	(3.59)
sum	+.00694	(4.36)	+10087.50000	(5.73)
	(3,4,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .932$

SEE = 12.804

D.W. = 2.108

ANOTHER PLASTITAS PRODUCT BY LOWE-MARTIN COMPANY INC.

BUSINESS FIXED INVESTMENT IN RESIDENTIAL CONSTRUCTION

Capital formation for private residential construction feeds directly to GNE and also influences production levels particularly in the construction industry by way of final demand conversion. The structural characteristics of this block include the following. Private residential capital formation includes: (1) expenditures on single housing, (2) expenditures on multiple housing, (3) expenditures on mobile homes, (4) expenditures on cottages and (5) expenditures on real estate commissions. A residual category (additions and alterations) is also explained stochastically. In addition, there are a number of smaller items needed to reconcile these subaggregates with the National Accounts.

Single and multiple dwelling starts are influenced by total new residential mortgage approvals, demographic factors, the relative advantage of renting versus owning and a proxy for the lagged change in vacancies. Also, dummy variables accounting for government policies (winter works programs and the deductibility of capital consumption allowance from other income) influence housing starts.

The single and multiple starts are used to explain both completions and expenditures. The completion equations are phasing relationships which account for the time response of completions to starts. The real expenditure equations for both singles and multiples include not only the influence of starts, both current and lagged, but also, in the case of singles, income and relative price. Real estate commissions are explained through a rate-base equation which applies real estate commission rates to the current dollar value of residential capital stock. Exogenous to the system is capital formation associated with both mobile homes and cottages. The residual category is influenced by real disposable income and completions.

One of the important right hand side variables in both the single and multiple starts equations is the level of mortgage approvals, both private and public. The financial block contains a mortgage sub-model which provides an explanation of mortgage approvals associated with insurance companies, chartered banks, trust and mortgage companies and other financial intermediaries. The basic underlying structure associated with the determination of mortgage assets and mortgage approvals is outlined in the section dealing with the financial block. However, many of the major influences from financial markets work their way into the housing block through the mortgage approval - mortgage assets route.

The residential user cost of capital is also determined in this block. This capital rental concept is influenced by the rate of economic depreciation, the effective federal and provincial corporate tax rate, the property tax rate, the tax depreciation rate, and the acquisition cost of new residential capital. The user cost of capital plays a crucial role in the determination of the deflator associated with imputed rental of owner occupied dwellings at the sector level. This sector deflator influences the consumption deflator associated with imputed rent.

In summary, private residential capital formation focuses primarily on the factors which influence single and multiple starts. These include influences from demographic, financial, price, and income variables. The influence of financial variables in this block is through the mortgage market sub-model. Phasing relationships are used to convert starts to completions. Completions are then combined with lagged housing stock to form current estimates of housing stock. Expenditures are influenced primarily through a phasing relationship with starts and other intervening variables, including income and relative price.

VARIABLES DETERMINED OUTSIDE THE BUSINESS FIXED INVESTMENT RESIDENTIAL BLOCK

FEMALE POPULATION - AGE GROUP 0-4	DPOPO0.04
FEMALE POPULATION - AGE GROUP 5-9	DPOPO5.09
FEMALE POPULATION - AGE GROUP 10-14	DPOPO10.14
FEMALE POPULATION - AGE GROUP 15-19	DPOPO15.19
FEMALE POPULATION - AGE GROUP 20-24	DPOPO20.24
FEMALE POPULATION - AGE GROUP 25-29	DPOPO25.29
FEMALE POPULATION - AGE GROUP 30-34	DPOPO30.34
TOTAL HOUSEHOLDS	DHOHO
TOTAL MALE POPULATION	DMPOP
MALE POPULATION - AGE GROUP 0-4	DMPPO0.04
MALE POPULATION - AGE GROUP 5-9	DMPPO5.09
MALE POPULATION - AGE GROUP 10-14	DMPPO10.14
MALE POPULATION - AGE GROUP 15-19	DMPPO15.19
MALE POPULATION - AGE GROUP 20-24	DMPPO20.24
MALE POPULATION - AGE GROUP 25-29	DMPPO25.29
MALE POPULATION - AGE GROUP 30-34	DMPPO30.34
MALE POPULATION - AGE GROUP 65 AND OVER	DMPPO65+
TOTAL POPULATION CANADA	DPOPOP
BANK ACT DUMMY	DUMMY67
DUMMY VARIABLE - AVERAGE HOURLY EARNING BLOCK	DUMMY70
DUMMY VARIABLE - CONSUMPTION BLOCK	DUM67
CDN DOLLAR DEPOSITS - OTHER FINANCIAL INTERMEDIARIES	FDEP.PUB.OFI
MORTGAGE APPROVALS BY CMHC - MULTIPLE DWELLINGS	FMAP.CMHC.MD
MORTGAGE APPROVALS BY CMHC - SINGLE DWELLINGS	FMAP.CMHC.SD
MORTGAGE APPROVALS BY TRUST & MORTGAGE LOAN CO	FMAP.TOT
CHARTERED BANK PRIME BUSINESS LOAN RATE (MONTH END)	FRATE.CBLEND
GOVT OF CANADA BOND YIELD AVERAGES 10 YRS AND OVER	FRATE.GBOND.10Y
NHA INTEREST RATES ON APP'D LENDERS - HOMEOWNERSHIP	FRATE.NHAMORT
AVERAGE OF CONVENTIONAL AND NHA MORTGAGE RATES	FRMC
CORP TAX RATE FEDERAL CALCULATED AVG	GTF.R.CORP
CORP TAX RATE PROVINCIAL CALCULATED AVG	GTP.R.CORP
GOVT FIXED INVEST - RESIDENTIAL	GE.INV.RES
GOVT FIXED INVEST - NONRESIDENTIAL	GE.INV.NR
INVEST BUSINESS TOTAL	IBNACO
INVEST MINING TOTAL - BLDG & ENG CONST	IMIC
INVEST REAL ESTATE COMM - NONRESIDENTIAL	IREC.NR
INVEST COMMERCIAL SRVS INDST - MACH & EQUIP	ISVCM
INVEST NONCOMMERCIAL SRVS INDST - MACH & EQUIP	ISVNCM
PERSONAL DISPOSABLE INCOME	PDY\$
DEFLATOR CONS EXPEND - TOTAL	PFC
DEFLATOR CONS EXPEND - GROSS RENT PAID	PFCSR20
PRICE INDEX - HOMEOWNERSHIP	PHROWIX
DEFLATOR RES CON INVEST - BUS,TOT NAT.ACC	PRFCINAB

VARIABLES EXOGENOUS TO THE BUSINESS FIXED INVESTMENT RESIDENTIAL BLOCK

REAL ESTATE COMMISSION RATE	R.REC.R	E
RESIDENTIAL CONST INVST - COTTAGES	RCICTG	E
RESIDENTIAL CONST INVST - GOV,DEF PLUS RNDING ERROR	RCIGD.RD	E
RESIDENTIAL CONST INVST - MOBILE HOMES	RCIMBL	E
DUMMY VARIABLE - RESIDENTIAL CONSTRUCTION BLOCK - CCA POLICY	RDRCCAIP	E
DUMMY VARIABLE - RESIDENTIAL CONST BLOCK - WINTER WORKS	RDUMWW	E
DUMMY VARIABLE - RESIDENTIAL CONSTRUCTION BLOCK	RDUM7LON	E
ECONOMIC LIFE, MULTIPLES	RLFM	E
ECONOMIC LIFE, SINGLES	RLFS	E
MULTIPLE DWELLING UNITS, DEMOLITIONS AND CONVERSIONS	RMDC	E
RESIDENTIAL PROPERTY TAX RATE	RPROP.RATE	E
SINGLE DETACHED DWELLING UNITS, DEMOLITIONS AND CONVERSIONS	RSDC	E
TAX DEPRECIATION	RTDM	E

VARIABLES ENDOGENOUS TO THE BUSINESS FIXED INVESTMENT RESIDENTIAL BLOCK (BOTH BEHAVIOURAL & IDENTITIES)

ECONOMIC DEPRECIATION, SINGLES	REDS	= 1 / RLFS
ECONOMIC DEPRECIATION, MULTIPLES	REDM	= 1 / RLFM
EFFECTIVE TAX RATE, MULTIPLES	RETM	= GTF.R.CORP + GTP.R.CORP
DISCOUNTED CAP COST MULTIPLE RES HOUSING	RZM	= (RTDM / (FRMC / 100 + RTDM))
		= * (1 - ((1 - RTDM) / (1 + FRMC / 100)) ** RLFM)
USER COST OF CAPITAL, MULTIPLES	RUCM	= (PERCINAB * (FRMC / 100 + REDM + RPROP.RATE))
		= * (1 - RZM * RETM) / (1 - RETM)
USER COST OF CAPITAL, SINGLES	RUCS	= (PERCINAB * (FRMC / 100 + REDS + RPROP.RATE))
USER COST OF CAPITAL, RESIDENTIAL, WEIGHTED	RUCW	= RUCS * (RSS + RSS(-1)) / (RTS + RTS(-1))
		+ RUCM * (RMS + RMS(-1)) / (RTS + RTS(-1))
TOTAL PRIV MORTGAGE APPROV, OTHER FIN INSTIT	FMAP.OFI	B
TOTAL PRIV MORTGAGE APPROVALS	FMAP.TOT+OTH	= FMAP.TOT + FMAP.OFI
		- FMAP.CMHC.MD - FMAP.CMHC.SD
TOTAL PRIV NEW RES MORTGAGE APPROVALS	FMAP.PNWRT	B
TOTAL PRIV NEW RES SINGLE MORTGAGE APPROVALS	FMAP.PNWRS	B
TOTAL NEW RES SINGLE MORTGAGE APPROVALS	FMAP.NWRS	= FMAP.PNWRS + FMAP.CMHC.SD
TOTAL STARTS	RTS	= RSS + RMS
SINGLE STARTS	RSS	B
SINGLE COMPLETIONS	RSC	B
SINGLE STOCK	RSST	= RSST(-1) + RSC - RSDC
MULTIPLE STARTS	RMS	B
MULTIPLE COMPLETIONS	RMC	B
MULTIPLE STOCK	RMST	= RMST(-1) + RMC - RMDC
TOTAL COMPLETIONS	RTC	= RSC + RMC
TOTAL RESIDENTIAL STOCK	RTST	= RSST + RMST
OCCUPANCY RATE	ROCC.R	= DHOHO / RTST
REAL EXPENDITURE, SINGLES	RCISGLE	B
REAL EXPENDITURE, MULTIPLES	RCIMULT	B
REAL EXPENDITURE, OTHER	RCIOTH	B
REAL ESTATE COMMISSIONS	RCIREC	B
RESIDENTIAL CONSTRUCTION, BUSINESS	RCINAB	= RCISGLE + RCIMULT + RCIOTH + RCIREC + RCIMBL
		+ RCICTG - GE.INV.RES - RCIGD.RD
CONS INVST - TOTAL (RES & NONRES), REAL EST COMM, I/O	IREC.IO	= IREC.NR + RCIREC
CONS INVST - TOTAL (EX REAL EST COMM & MIN), I/O	ICO.IO	= IBNACB - IREC.NR - IMIC + RCINAB - RCIREC
		+ GE.INV.RES + GE.INV.NR
SER INVST - TOTAL (MACH & EQUIP), I/O	IMESV.IO	= ISVCMM + ISVNCM

Equation No.: 3003

Name: Mortgage Approvals of Other Financial Intermediaries

Mnemonic: FMAP.OFI

Period: 1958-76

FMAP.OFI

= - 24.13800
(0.14)

+ 28.06980 (FRMC / FRATE.GBOND.10Y)
(0.23)

+ .11643 (FDEP.PUB.OFI - FDEP.PUB.OFI(-1))
(4.49)

+ .49422 FMAP.OFI(-1)
(1.96)

+ 12.45970 DUMMY67
(0.60)

- 83.97100 DUMMY70
(2.43)

$\bar{R}^2 = .886$ $SEE = 30.423$ $D.W. = 1.619$

Equation No.: 3005

Name: Total Private New Residential -- Mortgage Approvals

Mnemonic: FMAP.PNWRT

Period: 1959-75

FMAP.PNWRT

= - 1126.40000
(1.40)

+ 0.43837
(35.36)

FMAP.TOT+OTH

+ 424.36300
(1.18)

((DPOP(-1) - DMPOP00.04(-1) - DMPOP05.09(-1)
- DMPOP10.14(-1) - DMPOP15.19(-1)
- DFPOP00.04(-1) - DFPOP05.09(-1)
- DFPOP10.14(-1) - DFPOP15.19(-1))
/ RTST(-1))

+ 118.43200
(4.32)

(FRATE.NHAMORT - FRATE.CBLEND)

+ 250.16400
(3.64)

RDRCCAIP

+ 384.57500
(5.57)

DUM67(-1)

+ 276.10400
(4.00)

DUM67(-2)

$\bar{R}^2 = 0.997$

SEE = 63.886

D. W. = 1.603

Equation No.: 3006

Name: Total Private New Residential -- Single Mortgage Approvals

Mnemonic: FMAP.PNWRS

Period: 1958-75

$$\begin{aligned}
 & \ln((\text{FMAP.PNWRS} / \text{FMAP.PNWRT}) / (1 - (\text{FMAP.PNWRS} / \text{FMAP.PNWRT}))) \\
 = & + 13.02690 \\
 & (2.80) \\
 & + 11.22940 \quad \ln((\text{DMPOP} - \text{DMPOP00.04} - \text{DMPOP05.09} \\
 & (1.96) \quad - \text{DMPOP10.14} - \text{DMPOP15.19} - \text{DMPOP20.24} \\
 & \quad - \text{DMPOP25.29} - \text{DMPOP65+}) / \text{RSST}) \\
 & - .304888 \quad \ln(\text{FMAP.CMHC.SD} / \text{FMAP.PNWRT}) \\
 & (3.21) \\
 & + 4.24301 \quad \ln(\text{DMPOP30.34} / \text{DPOP}) \\
 & (3.46) \\
 & + .0738853 \quad (((\text{PFC} - \text{PFC}(-1)) / \text{PFC}(-1) * 100) \\
 & (1.58) \quad + ((\text{PFC}(-1) - \text{PFC}(-2)) / \text{PFC}(-2) * 100) \\
 & \quad / 2)
 \end{aligned}$$

$$\bar{R}^2 = .764$$

$$\text{SEE} = .207$$

$$\text{D. W.} = 2.169$$

Equation No.: 1338

Name: Single Detached Dwelling Units -- Starts

Mnemonic: RSS

Period: 1959-75

RSS

$$\begin{aligned}
= & + 128.54600 \\
& (9.07) \\
& + 0.019894 \quad ((\text{FMAP.PNWRT} + \text{FMAP.CMHC.SD}) / \text{PFRCINAB}) \\
& (5.95) \\
& + 0.0081877 \quad ((\text{FMAP.PNWRT}(-1) + \text{FMAP.CMHC.SD}(-1)) \\
& (2.09) \quad / \text{PFRCINAB}(-1)) \\
& - 5.29181 \quad \text{RDUMWW} \\
& (1.27) \\
& - 119.69400 \quad (\text{PFHOWIX} / \text{PFCSTR20}) \\
& (5.38) \\
& + 0.72398 \quad ((\text{DMPOP30.34} + \text{DFPOP30.34}) - (\text{DMPOP30.34}(-1) \\
& (8.57) \quad + \text{DFPOP30.34}(-1)))
\end{aligned}$$

$\bar{R}^2 = 0.959$

SEE = 4.363

D. W. = 2.376

Equation No.: 1341

Name: Single Detached Dwelling Units -- Completions

Mnemonic: RSC

Period: 1954-76

RSC

= + sum(i=0,2)b(i) RSS(-i)

i	b(i)	t(i)
0	+ 0.625677	(12.03)
1	+ 0.285347	(15.02)
2	+ 0.076788	(2.13)

sum + 0.987812 (110.39)

(2,3,FAR)

$\bar{R}^2 = 0.963$

SEE = 3.717

D. W. = 2.403

Equation No.: 1339

Name: Multiple Starts

Mnemonic: RMS

Period: 1959-75

RMS

= + 8.29247
(0.66)

+ 0.023538 ((FMAP.PNWRT + FMAP.CMHC.MD)
(6.15) / PFR CINAB)

+ 0.0043858 ((FMAP.PNWRT(-1) + FMAP.CMHC.MD(-1))
(1.04) / PFR CINAB(-1))

+ 22.71000 RDRCCAIP(-1)
(3.34)

- 0.19724 (RMS(-2) - ((DMPOP20.24(-2) + DMPPOP25.29(-2)
(2.61) + DFPOP20.24(-2) + DFPOP25.29(-2))
- (DMPOP20.24(-3) + DMPPOP25.29(-3)
+ DFPOP20.24(-3) + DFPOP25.29(-3))))

+ 0.12700 ((DMPPOP20.24 + DMPPOP25.29 + DFPOP20.24
(2.69) + DFPOP25.29) - (DMPPOP20.24(-1)
+ DMPPOP25.29(-1) + DFPOP20.24(-1)
+ DFPOP25.29(-1)))

$\overline{R^2} = 0.960$

SEE = 6.493

D. W. = 2.150

Equation No.: 1342

Name: Multiple Dwelling Units -- Completions

Mnemonic: RMC

Period: 1959-76

RMC

= + sum(i=0,2)b(i) RMS(-i)

i	b(i)	t(i)
0	+ 0.324846	(5.03)
1	+ 0.368927	(15.31)
2	+ 0.260646	(5.78)

sum + 0.954419 (64.31)

(2,3,FAR)

$\bar{R}^2 = 0.958$

SEE = 5.946

D. W. = 2.496

Equation No.: 1355

Name: Residential Construction Investment -- Real Expenditure --
Singles

Mnemonic: RCISGLE

Period: 1953-76

RCISGLE

= + 289.32400
(1.07)

+ 13.44010 RSS
(9.74)

+ 3.73780 RSS(-1)
(2.68)

+ 0.00984457 (PDY\$ / PFC)
(4.47)

- 660.40900 (PFRCINAB / PFC)
(1.56)

$\bar{R}^2 = 0.971$

SEE = 71.963

D. W. = 1.889

Equation No.: 1354

Name: Residential Construction Investment -- Real Expenditures --
Multiples

Mnemonic: RCIMLT

Period: 1954-76

RCIMLT

= - 59.92120
(1.53)

+ sum(i=0,2)b(i) RMS(-i)

i	b(i)	t(i)
0	+ 8.51860	(11.53)
1	+ 3.87813	(13.29)
2	+ 1.03860	(2.10)

sum + 13.4353 (30.98)

(2,3,FAR)

$\bar{R}^2 = 0.978$

SEE = 67.391

D. W. = 2.313

Equation No.: 1353

Name: Residential Construction Investment -- Real Expenditure --
Other

Mnemonic: RCIOTH

Period: 1953-76

RCIOTH

= - 34.80210
(1.02)

+ 2.57387 RTC
(8.20)

- 0.00107137 (PDY\$ / PFC)
(1.34)

- 208.35400 RDUM71ON
(2.37)

+ 0.00898640 (PDY\$ / PFC * RDUM71ON)
(7.11)

$\bar{R}^2 = 0.993$

SEE = 23.429

D. W. = 2.054

Equation No.: 1352

Name: Residential Construction Investment -- Real Estate Commissions

Mnemonic: RCIREC

Period: 1953-76

RCIREC * PFRCINAB

= - 91.36980
(2.11)

+ 0.0335434 (RSST(-1) * PFRCINAB * R.REC.R)
(9.43)

- 523.66200 RDUM71ON
(5.55)

+ .0222915 (RSST(-1) * PFRCINAB * R.REC.R
(4.94) * RDUM71ON)

$\bar{R}^2 = 0.982$

SEE = 54.111

D. W. = 1.906

GOVERNMENT INVESTMENT

Government investment, like business fixed investment, influences both the expenditure side and the production side of CANDIDE Model 2.0. The influence on the production side of the accounts is via final demand conversion. In keeping to the general philosophy of disaggregating investment by purchasing industry, government investment is disaggregated by level of government (federal, provincial, municipal and local, and hospital). Within each level of government, however, we treat investment in construction capital separately from investment in machinery and equipment. Furthermore, construction is disaggregated (for each level of government) and includes (among other things) schools, buildings other than schools, and highway construction.

The indicators which influence public capital formation include the general level of economic activity, cyclical variables, lagged capital stock, the stock of automobiles, the size of armed forces, school enrolment, specific intergovernmental transfers, and specific information associated with the demographics of health care. In total there are 17 stochastic equations associated with government capital formation.

VARIABLES DETERMINED OUTSIDE THE GOVERNMENT INVESTMENT BLOCK

ARMED FORCES	C.ARFORC
HOSPITALS,RATED BED CAPACITY, GENERAL & ALLIED SPEC	C.HOSBED
POPULATION COVERED BY MEDICARE	C.MEPORT
TOTAL VEHICLES REGISTRATION - ALL TYPES	C.RTV
ELEMENTARY & SECONDARY SCHOOL ENROLMENT	DEL+SEC-ENROL
TOTAL POPULATION CANADA	DPOP
NON-UNIVERSITY SCHOOL ENROLMENT	DPSONUNVENROL
UNEMPLOYMENT RATE	DURATE
FEED GOVT CAP STOCK - BLDGS OTHER THAN SCHOOLS	GEF.K.BOS
FEED GOVT CAP STOCK - HIGHWAY CONSTRUCTION	GEF.K.HWY
FEED GOVT CAP STOCK - MACH & EQUIP	GEF.K.ME
FEED GOVT CAP STOCK - OTHER ENGINEERING CONSTRUCTION	GEF.K.OEN
FEED GOVT EXPND - TRNFS TO PROV, TRANS CANADA HIGHWAY	GEF.TPR.TRCS
FEED GOVT EXPND - TRNSES TO PROV, TECH VOC TRAINING	GEF.TPR.VOC\$
LOCAL GOVT CAP STOCK - BLDGS OTHER THAN SCHOOLS	GEL.K.BOS
LOCAL GOVT CAP STOCK - HIGHWAY CONSTRUCTION	GEL.K.HWY
LOCAL GOVT CAP STOCK - MACH & EQUIP	GEL.K.ME
LOCAL GOVT CAP STOCK - OTHER ENGINEERING CONSTRUCTION	GEL.K.OEN
LOCAL GOVT CAP STOCK - SCHOOL BLDG CONSTRUCTION	GEL.K.SCH
PROV GOVT CAP STOCK - BLDGS OTHER THAN SCHOOLS	GEF.K.BOS
PROV GOVT CAP STOCK - HIGHWAY CONSTRUCTION	GEF.K.HWY
PROV GOVT CAP STOCK - MACH & EQUIP	GEF.K.ME
PROV GOVT CAPT STOCK - OTHER ENGINEERING CONSTRUCTION	GEF.K.OEN
PROV GOVT EXPND - TRNFS TO LOCAL GOVT TOTAL	GEF.TLOS
GROSS NATIONAL EXPENDITURE AT MARKET PRICES	GNE
DUMMY VARIABLE - INVST, MACH & EQUIP & CONST BLOCK	IDUMMY66
DUMMY VARIABLE - INVST, MACH & EQUIP & CONST BLOCK	IDUMMY71
DEFLATOR GOVT EXPND - INVST BLDG CONSTRUCTION	PFGE.INV.BUILD
DEFLATOR GOVT EXPND - INVST HIGHWAY & ROAD CONSTRUCTION	PFGE.INV.HWY

VARIABLES EXOGENOUS TO THE GOVERNMENT INVESTMENT BLOCK

[illegible]

VARIABLES ENDOGENOUS TO THE GOVERNMENT INVESTMENT BLOCK (BOTH BEHAVIOURAL & IDENTITIES)

FED GOVT EXPND - INVST BLDGS OTHER THAN SCHOOLS	GEF.INV.BOS	B
FED GOVT EXPND - INVST HIGHWAY CONSTRUCTION	GEF.INV.HWY	B
FED GOVT EXPND - INVST OTHER ENGINEERING CONSTRUCTION	GEF.INV.OEN	
FED GOVT EXPND - INVST NONRESIDENTIAL CONSTRUCTION	GEF.INV.NR	= GEF.INV.BOS + GEF.INV.HWY + GEF.INV.OEN
FED GOVT EXPND - INVST RESIDENTIAL CONSTRUCTION	GEF.INV.RES	B
FED GOVT EXPND - INVST MACH & EQUIP	GEF.INV.ME	
FED GOVT EXPND - INVST TOTAL FIXED CAPITAL FORMATION	GEF.INV.CAPF	= GEF.INV.RES + GEF.INV.NR + GEF.INV.ME
PROV GOVT EXPND - INVST SCHOOLS BLDG CONSTRUCTION	GEF.INV.SCH	B
PROV GOVT EXPND - INVST BLDGS OTHER THAN SCHOOLS	GEF.INV.BOS	B
PROV GOVT EXPND - INVST HIGHWAY CONSTRUCTION	GEF.INV.HWY	B
PROV GOVT EXPND - INVST OTHER ENGINEERING CONSTRUCTION	GEF.INV.OEN	
PROV GOVT EXPND - INVST NONRESIDENTIAL	GEF.INV.NR	= GEF.INV.SCH + GEF.INV.BOS + GEF.INV.HWY + GEF.INV.OEN
PROV GOVT EXPND - INVST MACH & EQUIP	GEF.INV.ME	B
PROV GOVT EXPND - INVST TOTAL	GEF.INV	= GEF.INV.ME + GEF.INV.NR
LOCAL GOVT EXPND - INVST SCHOOLS BLDG CONSTRUCTION	GEL.INV.SCH	B
LOCAL GOVT EXPND - INVST BLDGS OTHER THAN SCHOOLS	GEL.INV.BOS	B
LOCAL GOVT EXPND - INVST HIGHWAY CONSTRUCTION	GEL.INV.HWY	B
LOCAL GOVT EXPND - INVST OTHER ENGINEERING CONSTRUCTION	GEL.INV.OEN	
LOCAL GOVT EXPND - INVST NONRESIDENTIAL	GEL.INV.NR	= GEL.INV.SCH + GEL.INV.BOS + GEL.INV.HWY + GEL.INV.OEN
LOCAL GOVT EXPND - INVST MACH & EQUIP	GEL.INV.ME	B
LOCAL GOVT EXPND - INVST TOTAL	GEL.INV	= GEL.INV.ME + GEL.INV.NR
HOSP GOVT EXPND - INVST NONRESIDENTIAL	GEH.INV.NR	B
HOSP GOVT EXPND - INVST MACH & EQUIP	GEH.INV.ME	B
HOSP GOVT EXPND - INVST TOTAL	GEH.INV	= GEH.INV.NR + GEH.INV.ME
GOVT EXPND - INVST SCHOOL BLDG CONSTRUCTION	GE.INV.SCH	= GEF.INV.SCH + GEL.INV.SCH
GOVT EXPND - INVST BLDGS OTHER THAN SCHOOLS	GE.INV.BOS	= GEF.INV.BOS + GEP.INV.BOS + GEL.INV.BOS + GEH.INV.BOS + GEH.INV.NR
GOVT EXPND - INVST OTHER ENGINEERING CONSTRUCTION	GE.INV.OEN	= GEF.INV.OEN + GEP.INV.OEN + GEL.INV.OEN + GEH.INV.OEN
GOVT EXPND - INVST HIGHWAY CONSTRUCTION	GE.INV.HWY	= GEF.INV.HWY + GEP.INV.HWY + GEL.INV.HWY + GEH.INV.HWY
GOVT EXPND - INVST NONRESIDENTIAL	GE.INV.NR	= GE.INV.SCH + GE.INV.BOS + GE.INV.HWY + GEH.INV.HWY + GEP.INV.HWY + GEP.INV.OEN + GEL.INV.OEN + GEL.INV.NRADJ
GOVT EXPND - INVST RESIDENTIAL	GE.INV.RES	= GEF.INV.RES
GOVT EXPND - INVST MACH & EQUIP	GE.INV.ME	= GEF.INV.ME + GEP.INV.ME + GEL.INV.ME + GEH.INV.ME
GOVT EXPND - INVST TOTAL CAPITAL FORMATION	GE.INV.CAPF	= GE.INV.RES + GE.INV.ME + GEP.INV.ME + GEL.INV.ME + GEH.INV.ME + GEP.INV.NR + GEL.INV.NR + GEP.INV.CAPFADJ

Equation No.: 829

Name: Federal Government Investment -- Buildings Other Than Schools

Mnemonic: GEF.INV.BOS

Period: 1957-75

GEF.INV.BOS

= + 79.74520
(3.39)

- 57.11780 GID70
(3.82)

+ sum(i=0,3)b(i) GNE(-i)

+ sum(i=0,4)c(i) DURATE(-i)

+ sum(i=1,2)d(i) GEF.K.BOS(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+.0010101	(0.71)	+ 3.66689	(1.98)		
1	+.0028741	(3.84)	+ 4.20086	(2.39)	-.651480	(3.50)
2	+.004233	(3.87)	+ 2.85153	(2.20)	+.250384	(1.75)
3	+.003728	(2.20)	+ .86853	(0.46)		
			- .49852	(0.26)		
sum	+.01185	(6.45)	+11.08930	(2.20)	-.40110	(5.59)
	(3,4,BOTH)		(3,5,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .918$

SEE = 12.705

D.W. = 1.861

Equation No.: 830

Name: Federal Government Investment -- Highway Construction

Mnemonic: GEF.INV.HWY

Period: 1961-75

GEF.INV.HWY

= + 419.02400
(5.31)

+ .036166 C.RTV
(6.55)

+ 15.57380 GID61
(1.82)

+ 10.16430 GID67
(1.59)

+ sum(i=0,4)b(i) DURATE(-i)

+ sum(i=1,2)c(i) GEF.K.HWY(-i)

i	b(i)	t(i)	c(i)	t(i)
0	-1.74853	(1.69)		
1	-1.02858	(1.01)	-.29684	(2.15)
2	+ .83304	(1.35)	-.44501	(4.27)
3	+2.50954	(3.44)		
4	+2.67413	(3.25)		

sum +3.23959 (1.35) -.74185 (5.72)

(3,5,BOTH) (3,2,BOTH)

$\bar{R}^2 = .924$

SEE = 5.070

D.W. = 2.823

Equation No.: 831

Name: Federal Government Investment -- Other Engineering Construction

Mnemonic: GEF.INV.OEN

Period: 1959-76

GEF.INV.OEN

= + 394.04200
(5.79)

+ .0031457 GNE(-1)
(2.81)

- 10.18580 DURATE(-1)
(2.66)

+ 80.06040 GID6970
(5.67)

+ 20.4372 GID74
(1.08)

+ sum(i=1,3)b(i) GEF.K.OEN(-i)

i	b(i)	t(i)
1	-.01765	(0.23)
2	-.09552	(3.02)
3	-.12563	(1.34)

sum -.23880 (3.02)

(3,3,BOTH)

$\overline{R}^2 = .817$

SEE = 15.898

D.W. = 2.337

Equation No.: 833

Name: Federal Government Investment -- Residential Construction

Mnemonic: GEF.INV.RES

Period: 1959-76

GEF.INV.RES

= - 9.73331
(0.66)

+ 6.56751 GID72
(2.82)

+ sum(i=3,6)b(i) C.ARFORC(-i)

+ sum(i=0,1)c(i) GNE(-i)

i	b(i)	t(i)	c(i)	t(i)
0			+ .0006177	(1.80)
1			- .0005315	(1.42)
2				
3	-.0865532	(0.87)		
4	-.0177496	(0.29)		
5	+.0943307	(2.14)		
6	+.137607	(1.60)		
sum	+.12764	(1.36)	+ .00009	(1.18)
	(3,4,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .681$

SEE = 2.160

D.W. = 2.320

Equation No.: 834

Name: Federal Government Investment -- Machinery and Equipment

Mnemonic: GEF.INV.ME

Period: 1957-76

GEF.INV.ME

= - 233.75700
(7.49)

+ sum(i=2,4)b(i) DURATE(-i)

+ sum(i=0,1)c(i) GEF.INV.BOS(-i)

+ sum(i=1,6)d(i) GEF.K.ME(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.67384	(3.11)		
1			+.52441	(2.89)	+.11876	(2.87)
2	+ 1.59449	(0.44)			+.12002	(3.40)
3	+ 8.83526	(5.15)			+.050528	(5.12)
4	+11.65840	(3.50)			-.042964	(1.03)
5					-.113713	(1.66)
6					-.114973	(1.87)
sum	+22.08810	(5.15)	+1.19825	(4.07)	+.01765	(0.17)
	(3,3,BOTH)		(3,2,BOTH)		(3,6,BOTH)	

$\bar{R}^2 = .965$

SEE = 16.569

D.W. = 2.425

Equation No.: 836

Name: Provincial Government Investment -- Schools Building Construction

Mnemonic: GEP.INV.SCH

Period: 1958-76

GEP.INV.SCH

= - 13.25710
(0.58)

+ 32.57740 GID65
(2.68)

+ 58.57940 GID72
(3.98)

+ 35.68230 GID75
(2.65)

+ sum(i=3,4)b(i) (DEL+SEC-ENROL(-i) + DPSNONUNVENROL(-i))

+ sum(i=0,1)c(i) (GEF.TPR.VOC\$(-i) / PFGE.INV.BUILD(-i))

i	b(i)	t(i)	c(i)	t(i)
0			+ .158108	(3.74)
1			- .055019	(1.10)
2				
3	-.082801	(1.69)		
4	+.099088	(2.12)		
sum	+.01629	(4.01)	+.10309	(2.61)
	(3,2,BOTH)		(3,2,BOTH)	

$\bar{R}^2 = .842$

SEE = 11.499

D.W. = 2.323

Equation No.: 837

Name: Provincial Government Investment -- Buildings Other Than Schools

Mnemonic: GEP.INV.BOS

Period: 1959-75

GEP.INV.BOS

= - 198.12800
(4.30)

+ sum(i=0,2)b(i) GNE(-i)

+ sum(i=0,2)c(i) DURATE(-i)

+ sum(i=1,5)d(i) GEP.K.BOS(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+.0050502	(3.50)	+11.85310	(3.55)		
1	+.0086324	(5.98)	+ 3.20048	(2.02)	-.533996	(6.77)
2	+.0078985	(4.15)	- 7.05242	(2.48)	-.529113	(6.57)
3					-.229311	(5.07)
4					+.121449	(3.38)
5					+.279206	(6.01)
sum	+.02158	(5.98)	+ 8.00121	(2.02)	-.89176	(5.07)
	(3,3,BOTH)		(3,3,BOTH)		(3,5,BOTH)	

$\bar{R}^2 = .971$

SEE = 7.958

D.W. = 2.606

Equation No.: 838

Name: Provincial Government Investment -- Highway Construction

Mnemonic: GEP.INV.HWY

Period: 1959-75

GEP.INV.HWY

= + 491.11000
(2.44)

+ .36728 (GEF.TPR.TRC\$ / PFGE.INV.HWY)
(0.81)

+ 61.12110 GID67
(1.62)

- 114.86800 GID70
(3.10)

+ sum(i=0,5)b(i) C.RTV(-i)

+ sum(i=1,4)c(i) GEP.K.HWY(-i)

i	b(i)	t(i)	c(i)	t(i)
0	-.212829	(5.40)		
1	-.195664	(5.82)	-.243520	(3.25)
2	-.043936	(3.32)	-.129474	(3.32)
3	+.146926	(3.41)	+.106333	(2.18)
4	+.281489	(4.14)	+.228093	(2.77)
5	+.264324	(4.38)		
sum	+.24031	(2.06)	-.03857	(0.54)
	(3,6,BOTH)		(3,4,BOTH)	

$\overline{R}^2 = .905$

SEE = 32.665

D.W. = 2.226

Equation No.: 839

Name: Provincial Government Investment -- Other Engineering
Construction

Mnemonic: GEP.INV.OEN

Period: 1960-76

GEP.INV.OEN

= - 45.21450
(1.94)

+ .0008756 GNE(-1)
(1.77)

+ 32.89960 GID72
(2.53)

+ 39.32890 GID74
(2.97)

+ sum(i=1,2)b(i) GEP.K.OEN(-i)

i	b(i)	t(i)
1	+.630217	(3.25)
2	-.589259	(2.59)
sum	+.04096	(0.83)
(3,2,BOTH)		

$\bar{R}^2 = .967$

SEE = 11.849

D.W. = 1.692

Equation No.: 841

Name: Provincial Government Investment -- Machinery and Equipment

Mnemonic: GEP.INV.ME

Period: 1958-76

GEP.INV.ME

= - 56.66480
(2.78)

+ .0030164 GNE(-2)
(4.25)

- 26.46520 GID65
(2.76)

+ 47.34970 GID7475
(5.68)

- .336099 GEP.K.ME(-1)
(3.05)

+ sum(i=3,5)b(i) DURATE(-i)

i	b(i)	t(i)
3	-1.08511	(0.64)
4	+1.99586	(2.20)
5	+4.07890	(2.42)
sum	+4.98965	(2.20)
(3,3,BOTH)		

$\bar{R}^2 = .940$

SEE = 8.310

D.W. = 2.079

Equation No.: 843

Name: Local Government Investment -- Schools Building Construction

Mnemonic: GEL.INV.SCH

Period: 1957-75

GEL.INV.SCH

= - 1612.40000
(7.17)

+ sum(i=0,3)b(i) (DEL+SEC-ENROL(-i) + DPSNONUNVENROL(-i))

+ sum(i=2,4)c(i) DURATE(-i)

+ sum(i=1,4)d(i) GEL.K.SCH(-i)

i

0	+.75141	(6.93)				
1	+.488377	(9.05)			-.42920	(5.71)
2	-.150362	(2.11)	+13.67890	(1.65)	-.236727	(5.53)
3	-.526066	(4.34)	-21.18910	(4.97)	+.170346	(4.87)
4			-45.46260	(4.76)	+.384946	(5.53)
sum	+.56336	(6.00)	-52.97290	(4.97)	-.11064	(2.13)
	(3,4,BOTH)		(3,3,BOTH)		(3,4,BOTH)	

$\overline{R}^2 = .940$

SEE = 34.938

D.W. = 2.749

Equation No.: 844

Name: Local Government Investment -- Buildings Other Than Schools

Mnemonic: GEL.INV.BOS

Period: 1960-76

GEL.INV.BOS

= - 200.33200
(4.26)

+ 18.74440 GID65
(1.21)

+ 25.07300 GID72
(1.53)

+ sum(i=1,2)b(i) GNE(-i)

+ sum(i=3,5)c(i) DURATE(-i)

+ sum(i=1,6)d(i) GEL.K.BOS(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
1	+.0044272	(1.90)			-.064796	(1.17)
2	+.0027521	(1.07)			-.087442	(1.53)
3			+2.10437	(0.60)	-.080269	(2.41)
4			+5.31175	(3.68)	-.055607	(1.46)
5			+5.86325	(1.62)	-.025788	(0.41)
6					-.0031421	(0.05)
sum	+.00718	(3.36)	+13.27940	(3.68)	-.31705	(2.43)
	(3,2,BOTH)		(3,3,BOTH)		(3,6,BOTH)	

$\bar{R}^2 = .916$

SEE = 12.348

D.W. = 2.447

Equation No.: 845

Name: Local Government Investment -- Highway Construction

Mnemonic: GEL.INV.HWY

Period: 1958-76

GEL.INV.HWY

```
= + 228.80300
    (7.17)

+ 24.75110      IDUMMY66
    (1.71)

+ 31.77590      IDUMMY71
    (2.07)

+ 47.84870      GID75
    (3.12)

+ 4.41969       DURATE(-1)
    (1.50)

- 0.06041       GEL.K.HWY(-1)
    (3.21)

+ sum(i=0,2)b(i) (GEP.TLO$(-i) / PFGE.INV.HWY (-i))
```

i	b(i)	t(i)
0	+.07159	(5.41)
1	+.04608	(6.14)
2	-.00248	(0.17)
sum	+.11519	(6.14)
(3,3,BOTH)		

$\bar{R}^2 = .964$

SEE = 12.689

D.W. = 2.046

Equation No.: 846

Name: Local Government Investment -- Other Engineering Construction

Mnemonic: GEL.INV.OEN

Period: 1958-76

GEL.INV.OEN

= - 74.39540
(3.20)

+ 78.92980 GID60
(4.67)

+ 34.64630 GID65
(2.29)

+ sum(i=0,2)b(i) GNE(-i)

+ sum(i=1,4)c(i) DURATE(-i)

+ sum(i=1,4)d(i) GEL.K.OEN(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+.0053795	(2.85)				
1	+.0040032	(7.76)	- 5.24859	(2.38)	-.0097568	(0.26)
2	+.0006254	(0.40)	+ 1.29626	(0.85)	-.0319084	(1.85)
3			+10.46540	(5.32)	-.0491815	(1.97)
4			+13.08970	(4.96)	-.0443031	(1.04)
sum	+.010008	(7.76)	+19.60280	(4.37)	-.13515	(4.86)
	(3,3,BOTH)		(3,4,BOTH)		(3,4,BOTH)	

$\overline{R}^2 = .972$

SEE = 13.011

D.W. = 3.080

Equation No.: 848

Name: Local Government Investment -- Machinery and Equipment

Mnemonic: GEL.INV.ME

Period: 1960-76

GEL.INV.ME

= - 7.98113
(0.62)

+ .0016889 GNE(-2)
(1.23)

+ .569293 GEL.INV.BOS
(4.44)

+ sum(i=1,6)b(i) GEL.K.ME(-i)

i	b(i)	t(i)
1	+.0962242	(2.27)
2	+.0852177	(1.78)
3	+.0120741	(0.36)
4	-.0781131	(3.25)
5	-.14025	(4.10)
6	-.129244	(3.88)

sum - .15409 (1.30)

(3,6,BOTH)

$\bar{R}^2 = .950$

SEE = 7.889

D.W. = 2.534

Equation No.: 850

Name: Hospital Government Investment -- Nonresidential Construction

Mnemonic: GEH.INV.NR

Period: 1961-75

GEH.INV.NR

= + 96.09180
(2.28)
+ .84685 (DPOP(-1) / C.HOSBED(-1))
(2.90)
- 19.60750 GID65
(2.05)
+ sum(i=1,5)b(i) DURATE(-i)

i	b(i)	t(i)
1	- 1.75601	(1.89)
2	- 2.84938	(3.05)
3	- 3.25028	(4.14)
4	- 2.92890	(2.86)
5	- 1.85541	(1.85)
sum	-12.64000	(4.14)

(3,5,BOTH)

$\bar{R}^2 = .614$

SEE = 8.339

D.W. = 3.029

Equation No.: 851

Name: Hospital Government Investment -- Machinery and Equipment

Mnemonic: GEH.INV.ME

Period: 1961-75

GEH.INV.ME

= + 42.56590
(6.21)

+ sum(i=3,5)b(i) (C.MEPORT(-i) * DPOP(-i) / C.HOSBED(-i))
+ sum(i=0,2)c(i) GEH.INV.NR(-i)
+ sum(i=0,2)d(i) DURATE(-i)

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0			+.07090	(2.95)	+3.39792	(6.30)
1			+.06862	(5.54)	-1.61042	(5.69)
2			+.03202	(2.97)	-5.81355	(10.76)
3	+.27701	(12.59)				
4	+.01699	(2.17)				
5	-.25152	(8.33)				
sum	+.04248	(2.17)	+.17154	(5.54)	-4.02605	(5.69)
	(3,3,BOTH)		(3,3,BOTH)		(3,3,BOTH)	

$\bar{R}^2 = .977$

SEE = 1.990

D.W. = 3.131

INVENTORIES

Inventory accumulation in CANDIDE Model 2.0 is disaggregated by holding industry. Agricultural and government inventories are treated as exogenous. Inventories held by the private nonagricultural sector are disaggregated as follows: (1) forestry, (2) mining, (3) retail and wholesale trade, (4) manufacturing durables, (5) manufacturing nondurables, and (6) other. These eight categories, disaggregated by holder, when tallied provide an estimate of the GNE expenditure side concept, change in inventories. When these items are converted to production levels by way of final demand conversion they pass through an intermediate step which provides an estimate of inventories disaggregated by finished goods and raw materials. This pre-converter step maps inventories by holding industry to a raw material-finished goods accounting framework by using average weights associated with the 1966-1971 period. Raw materials and finished goods inventories are then passed through the input-output converter influencing production levels. Once inventory change is determined, inventory stock estimates are developed by adding inventory change to estimates of lagged inventory stock.

The right hand side variables that influence inventory change are: (1) specific activity levels (either final demand or production) associated with each holding

industry, (2) lagged inventory stock associated with each holding industry, and (3) in some cases the rate of change of prices associated with the holding industry. The inventory equations are derived from accelerator theory. The estimation technique applied permits separation of the short-run from the long-run response. This is accomplished by using polynomial estimation techniques when determining the coefficients of the inventory demand equations.

INVENTORY BLOCK

VARIABLES DETERMINED OUTSIDE THE INVENTORY BLOCK

CONSUMER EXPENDITURE - TOTAL (1971\$)
CONSUMER EXPENDITURE - TOTAL
CONSUMER EXPENDITURE - ADJUSTING ENTRY TOTAL
CONSUMER EXPENDITURE - TOTAL SERVICES (1971\$)
CONSUMER EXPENDITURE - TOTAL SERVICES
SECTOR DEFATOR, MANUFACTURING NONDURABLES, TOTAL
RDP, CONSTRUCTION INDUSTRIES
RDP, COMMUNICATION INDUSTRIES
RDP, MANUF DURABLES TOTAL
RDP, FORESTRY INDUSTRIES
RDP, PRIMARY METALS INDUSTRIES
RDP, MOTOR VEHICLE INDUSTRIES (EX PARTS AND ACC)
RDP, MOTOR VEHICLE PARTS AND ACCESSORIES INDUSTRIES
RDP, MANUF NONDURABLES TOTAL
RDP, WHOLESALE & RETAIL TRADE INDST
RDP, TRANSPORTATION INDST
RDP, UTILITY INDST

INVENTORY CHANGE - AGRICULTURE
INVENTORY CHANGE - GOVERNMENT
INVENTORY CHANGE - ADJUSTING ENTRY MANUFACTURING TOTAL
INVENTORY CHANGE - ADJUSTING ENTRY NON AGRICULTURE
DUMMY VARIABLE - INVENTORY BLOCK
DUMMY VARIABLE - INVENTORY BLOCK
DUMMY VARIABLE - INVENTORY BLOCK
DUMMY VARIABLE - INVENTORY BLOCK
INVENTORY - ADJUSTING ENTRY MANUFACTURING TOTAL
INVENTORY - ADJUSTING ENTRY NON AGRICULTURE

.INVAG
.INVGV
.INVMFADJ
.INVNAGADJ
D66+67-
D70+71-
D71+72-
D74+75-
INVMEADJ
INVNAGADJ

E
E
E
E
E
E
E
E
E
E

INVENTORY CHANGE - MANUFACTURING DURABLES	.INVMFDR	B
INVENTORY CHANGE - MANUFACTURING NONDURABLES	.INVMFND	B
INVENTORY CHANGE - FORESTRY	.INVFSTY	B
INVENTORY CHANGE - MINING	.INVM	B
INVENTORY CHANGE - RETAIL AND WHOLESALE TRADE	.INVTDR	B
INVENTORY CHANGE - OTHER INDUSTRIES	.INVOTH	B
INVENTORY CHANGE - NONAGRICULTURE	.INVNAG	B
INVENTORY - GOVERNMENT	.INVMFDR + .INVMFND + .INVMFADJ + .INVFSTY	=
INVENTORY - AGRICULTURE	+ .INVM + .INVTDR + .INVOTH + .INVNAGADJ	=
INVENTORY - MANUFACTURING DURABLES	INVG(-1) + .INVG	=
INVENTORY - MANUFACTURING NONDURABLES	INVG(-1) + .INVG	=
INVENTORY - FORESTRY	INVMFDR(-1) + .INVMFDR	=
INVENTORY - MINING	INVMFND(-1) + .INVMFND	=
INVENTORY - RETAIL AND WHOLESALE TRADE	INVEST(-1) + .INVESTY	=
INVENTORY - OTHER INDUSTRIES	INVM(-1) + .INVM	=
INVENTORY - MANUFACTURING TOTAL	INVTDR(-1) + .INVTDR	=
INVENTORY - NONAGRICULTURE	INVOTH(-1) + .INVOTH	=
INVENTORY - RAW MATERIALS TOTAL	INVMFDR + INVMFND + INVMFADJ	=
	INVMF + INVFSTY + INVM + INVTDR + INVOTH	=
	+ INVNAGADJ	=
	INVG + (INVG * .018) + ((INVMF * .336)	=
	+ (INVFSTY * .066) + (INVM * .316)	=
	+ INVTDR + INVOTH	=
	* (1 + (INVNAGADJ / (INVMF + INVFSTY + INVM	=
	+ (INVTDR + INVOTH)))	=
	+ (INVG * .982) + ((INVMF * .664) + (INVFSTY * .934)	=
	+ (INVM * .684)) * (1.0 + (INVNAGADJ / (INVMF	=
	+ INVFSTY + INVM + INVTDR + INVOTH)))	=
	INVM - INVM(-1)	=
	INVG - INVG(-1)	=
	.INVM + .INVG	=
	INV(-1) + .INV	=
INVENTORY - FINISHED GOODS TOTAL		
INVENTORY CHANGE - RAW MATERIALS TOTAL	.INVRM	
INVENTORY CHANGE - FINISHED GOODS TOTAL	.INVEG	
INVENTORY - TOTAL ECONOMY		
INVENTORY CHANGE - RAW MATERIALS TOTAL	.INVRM	
INVENTORY CHANGE - FINISHED GOODS TOTAL	.INVEG	
INVENTORY - TOTAL ECONOMY	.INV	

Equation No.: 10

Name: Inventory Change -- Manufacturing, Durables

Mnemonic: .INVMFDR

Period: 1955-74

.INVMFDR

= - 238.223
(1.71)

- 0.475219 INVMFDR(-1)
(2.42)

+ 442.657 D74+75-
(4.15)

+ sum(i=0,2)b(i) (XMFDR(-i) - XMFDR323.24(-i) - XMFDR325(-i))

i	b(i)	t(i)
0	+0.474716	(7.54)
1	-0.00177267	(0.03)
2	-0.160011	(2.09)
sum	+0.312932	(2.32)
	(2,3,FAR)	

$\bar{R}^2 = 0.850$

SEE = 92.597

D.W. = 1.653

Equation No.: 11

Name: Inventory Change -- Manufacturing, Nondurables

Mnemonic: .INVMFND

Period: 1954-74

.INVMFND

```
= + 998.341
    (2.16)

-   0.675827      INVMFND(-1)
    (2.26)

+   7.00573      (((((PXMEND - PXMEND(-1)) / PXMEND(-1)) - 1)
    (1.25)        * 100)
                  - (((PXMEND(-1) - PXMEND(-2)) / PXMEND(-2))
                  - 1) * 100))

+ sum(i=0,4)b(i)  XMFND(-i)

i      b(i)      t(i)
0      +0.239807  (2.31)
1      +0.0882044 (3.45)
2      -0.0115777 (0.24)
3      -0.0595392 (0.91)
4      -0.0556800 (1.11)

sum +0.201215    (1.99)

      (2,5,FAR)
```

$\overline{R}^2 = 0.543$

SEE = 80.473

D.W. = 2.030

Equation No.: 12

Name: Inventory Change -- Forestry

Mnemonic: .INVFSTY

Period: 1953-74

.INVFSTY

```
= + 132.303
    (2.78)

+ 32.2506      D71+72-
    (1.34)

- 0.393079     INVFSTY(-1)
    (2.60)

+ sum(i=0,3)b(i)  XFSTY31.9(-i)

i      b(i)      t(i)
0      +0.566553  (3.27)
1      -0.0218007 (0.88)
2      -0.312344  (2.96)
3      -0.305077  (3.04)

sum -0.072669    (0.88)

      (2,4,FAR)
```

$\bar{R}^2 = 0.428$

SEE = 32.977

D.W. = 1.680

Equation No.: 13

Name: Inventory Change -- Mining

Mnemonic: .INVMI

Period: 1953-74

.INVMI

=	+	28.2303	
		(1.51)	
	+	24.5296	D66+67-
		(1.30)	
	-	0.284413	INVMI(-1)
		(2.05)	
	-	0.187098	XMFR291.98
		(2.32)	
	+	0.253166	XMFR291.98(-1)
		(3.08)	

$\bar{R}^2 = 0.318$

SEE = 25.658

D.W. = 1.663

Equation No.: 14

Name: Inventory Change -- Retail and Wholesale Trade

Mnemonic: .INVTRAD

Period: 1955-74

.INVTRAD

```
= + 1121.78
    (2.29)

-   0.529480    INVTRAD(-1)
    (2.73)

+   60.5196     ((((((C$ - CS$) / (C - CS - CADJ)) /
    (3.74)       ((C$(-1) - CS$(-1)) / (C(-1) - CS(-1)-CADJ(-1))))
                  - 1.0) * 100.0)
                  - (((((C$(-1) - CS$(-1)) / (C(-1) - CS(-1)
                  - CADJ(-1))) / ((C$(-2) - CS$(-2)) / (C(-2)
                  - CS(-2) - CADJ(-2))))
                  - 1.0) * 100.0))

+   0.350444    XTRAD602.99
    (3.26)
```

$\bar{R}^2 = 0.818$

SEE = 91.723

D.W. = 1.377

Equation No.: 15

Name: Inventory Change -- Other Industries

Mnemonic: .INVOTH

Period: 1955-74

.INVOTH

= + 116.697
(1.43)

- 0.217456 INVOTH(-1)
(1.79)

+ 70.7428 D70+71-
(2.82)

+ sum(i=0,2)b(i) (XCNST404.21(-i) + XCOMM543.48(-i)
+ XTRSP501.27(-i) + XUTIL572.79(-i))

i	b(i)	t(i)
0	+0.106723	(4.39)
1	-0.0342491	(3.47)
2	-0.0698234	(3.92)

sum +0.00265044 (0.44)

(2,3,FAR)

$\bar{R}^2 = 0.604$

SEE = 34.265

D.W. = 1.892

GOVERNMENT PURCHASES OF GOODS AND SERVICES

Government current purchases of goods and services are disaggregated by level of government. The total tallies to the National Accounts concept found in the GNE identity. There are three categories of expenditures for hospitals, two for the Canada/Quebec Pension Plan, seven for the federal government, four for the provincial governments, and four for local governments. With the exception of depreciation, pension plan administration cost, and federal defence, the equations at the federal, provincial, and local level are all specified as reaction functions. The level of real government spending reacts to the level of real government revenues at the appropriate level of government. Cyclical variables such as the unemployment rate also influence government spending on goods and services.

Depreciation allowances (excluding hospitals) by level of government are estimated in current dollars. The depreciation equations are rate-base calculations where depreciation depends upon the current dollar value of capital stock and a depreciation rate. The administrative costs associated with the Canada/Quebec Pension Plan are related to the current dollar level of benefit activity.

Expenditure on health care is determined in the consumption block. Hospital wages and salaries, and

hospital purchases of other goods and services including depreciation are determined first in the aggregate in the consumption block. Ratio techniques are then used to split these categories to disaggregated levels. In our discussion of consumption we noted that health care services, both public and private, were first determined in total. The private portion of this surfaces as an item in the consumption identity while the public part of this surfaces as an item in the government expenditure identity.

Before government purchases of goods and services are converted to production levels, (via the input-output route), they pass through a preconverter which maps the demand categories associated with government expenditure on goods and services, to demand categories associated with value-added and other goods and services concepts for (1) hospitals, (2) primary, secondary, and post-secondary nonuniversity education, (3) federal defence, (4) federal nondefence, (5) municipal and local, and (6) provincial. The preconverter is necessary in order to separate health care and education spending at the various levels of government. This preconversion step is only a mapping from one accounting system to another. It converts 18 categories of final demand to 12 categories of final demand, where the latter accounting framework separates value-added from other

goods and services concepts, while the former accounting framework deals directly with wage and salary spending, capital consumption allowances, health care spending, (all in real terms) et cetera.

VARIABLES DETERMINED OUTSIDE THE GOVERNMENT EXPENDITURE CURRENT GOODS & SERVICES BLOCK

ELEMENTARY AND SECONDARY SCHOOL ENROLMENT	DEL+SEC-ENROL
FEMALE POPULATION - AGE GROUP 5-9	DFPOP05.09
FEMALE POPULATION - AGE GROUP 10-14	DFPOP10.14
FEMALE POPULATION - AGE GROUP 15-19	DFPOP15.19
MALE POPULATION - AGE GROUP 5-9	DMPOP05.09
MALE POPULATION - AGE GROUP 10-14	DMPOP10.14
MALE POPULATION - AGE GROUP 15-19	DMPOP15.19
TOTAL POPULATION CANADA	DPOP
UNEMPLOYMENT RATE	DURATE
DUMMY VARIABLE - GOVERNMENT EXPENDITURE BLOCK	GEDUM5865
DUMMY VARIABLE - GOVERNMENT EXPENDITURE BLOCK	GEDUM710N
FED GOVT EXPND - CURNT GDS & SRVS, DEPRECIATION	GEF.CGS.CCA\$
HOSP GOVT EXPND - GDS & SRVS, TOTAL	GEH.CGS
HOSP EXPND - GDS & SRVS I/O	GEH.CGS.IO
LOCAL GOVT EXPND - GDS&SRVS, DEPRECIATION	GEL.CGS.CCA\$
PROV GOVT EXPND - GDS&SRVS, DEPRECIATION	GEP.CGS.CCA\$
PROV GOVT EXPND - GDS&SRVS, MEDICARE	GEP.CGS.MED
CANADA PENSION PLAN - ADMINISTRATION COST	GEPENC.GS\$
QUEBEC PENSION PLAN - ADMINISTRATION COST	GEPENQ.GS\$
FED GOVT REVENUE - TOTAL	GRF\$
LOCAL GOVT REVENUE - TOTAL	GRL\$
PROV GOVT REVENUE - TOTAL	GRP\$
DEFLATOR GOVT EXPND - CURRENT GDS&SRVS, DEPRECIATION	PFGE.CGS.CCA
DEFLATOR GOVT EXPND - OTHER GDS&SRVS	PFGE.OTH
INCL. INVST LABOUR COMPONENT	PFGNE
DEFLATOR GROSS NATIONAL EXPENDITURE (GNE)	

VARIABLES EXOGENOUS TO THE GOVERNMENT EXPND CURRENT GOODS & SERVICES BLOCK

GOVT EXPND - CURNT GDS & SRVS, TOTAL ADJUSTING ENTRY	GE.CGS.ADJ	E
FED GOVT EXPND - CURNT GDS & SRVS, FED DEFENCE ADJ ENTRY	GEF.CGS.DADJ	E
FED GOVT EXPND - CURNT GDS&SRVS, DEF CIV WAGES + SALARIES	GEF.CGS.DCWS	E
FED GOVT EXPND - CURNT GDS&SRVS, DEF CAPITAL	GEF.CGS.DINV	E
FED GOVT EXPND - CURNT GDS&SRVS, DEF MILITARY PAY	GEF.CGS.DMP	E
HOSP GOVT EXPND - GDS&SRVS, DEPRECIATION SHARE I/O	GEH.CGS.CCA.IOR	E
HOSP GOVT EXPND - GDS&SRVS, DEPRECIATION SHARE	GEH.CGS.CCA.R	E
HOSP GOVT EXPND - GDS&SRVS, OTHER NET OF DEPREC SHARE I/O	GEH.CGS.OGS.IOR	E
HOSP GOVT EXPND - GDS&SRVS, OTHER NET OF DEPRECIATION SHARE	GEH.CGS.OGS.R	E

[illegible]

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FED GOVT EXPND - CURNT GDS&SRVS, NONDEFENCE I/O OTHER
LOCAL GOVT EXPND - GDS&SRVS, I/O VALUE ADDED
LOCAL GOVT EXPND - GDS&SRVS, I/O OTHER
PROV GOVT EXPND - GDS&SRVS, I/O VALUE ADDED
PROV GOVT EXPND - GDS&SRVS, I/O OTHER

GEF.IO.NDOTH
GEL.IO.VA
GEL.IO.OTH
GEP.IO.VA
GEP.IO.OTH

= .95425 * GEF.CGS.NDOGS + GEPENC.GS
= GEL.CGS.WSM + .59142 * GEL.CGS.CCA
= .42424 * GEL.CGS.OGS
= .58989 * GEP.CGS.WS + .87385 * GEP.CGS.CCA
= .98777 * GEP.CGS.OGS + GEPENQ.GS + GEP.CGS.MED

Equation No.: 865

Name: Federal Government Expenditures -- Current Goods and Services,
Nondefence Other

Mnemonic: GEF.CGS.NDOGS

Period: 1956-75

GEF.CGS.NDOGS / (GRF\$ * 100 / PFGNE)

= + 0.068905
(18.76)

- 351.14600 1 / (GRF\$ * 100 / PFGNE)
(9.31)

- 0.00554 GEDUM5865
(2.31)

+ sum(i=0,2)b(i) 1 / DURATE(-i)

i	b(i)	t(i)
0	-0.07356	(5.67)
1	-0.007233	(0.96)
2	+0.059089	(3.83)
sum	-0.02170	(0.96)

(1,3,NONE)

$\bar{R}^2 = 0.923$ SEE = 0.004 D.W. = 1.882 RHO = -0.498

Equation No.: 866

Name: Federal Government Expenditures -- Current Goods and Services,
Nondefence Wages and Salaries

Mnemonic: GEF.CGS.NDWS

Period: 1956-75

GEF.CGS.NDWS / (GRF\$ * 100 / PFGNE)

= + 0.06814
(7.72)

+ 599.54900 (1 / (GRF\$ * 100 / PFGNE)
(10.01)

+ 0.001718 DURATE
(1.84)

+ 0.00457 (((PFGNE / PFGNE(-1)) - 1) * 100)
(0.98)

$\bar{R}^2 = 0.914$

SEE = 0.005

D.W. = 1.375

Equation No.: 868

Name: Federal Government Expenditures -- Current Goods and Services,
Defence Residual

Mnemonic: GEF.CGS.DOTH

Period: 1956-76

GEF.CGS.DOTH

= - 898.25800
(1.68)

+ .594199 (GEF.CGS.DCWS + GEF.CGS.DMP)
(2.13)

+ .704356 GEF.CGS.DOTH(-1)
(12.96)

+ .023645 (GRF\$ * 100 / PFGNE)
(2.14)

$\bar{R}^2 = .903$ SEE = 56.929 D.W. = 2.271 RHO = -.329

Equation No.: 877

Name: Provincial Government Expenditures -- Goods and Services, Other

Mnemonic: GEP.CGS.OGS

Period: 1955-75

GEP.CGS.OGS / (GRP\$ * 100 / PFGNE)

= + 0.023904
(1.98)

+ 181.33700 1 / (GRP\$ * 100 / PFGNE)
(6.16)

+ 0.0086964 (((PFGNE / PFGNE(-1)) - 1) * 100)
(3.44)

- 0.0069548 (GEDUM71ON * (((PFGNE / PFGNE(-1)) - 1) * 100))
(3.48)

+ sum(i=0,2)b(i) 1 / DURATE(-i)

i	b(i)	t(i)
0	-0.112552	(1.99)
1	-0.021165	(0.78)
2	+0.070222	(1.83)

sum -0.06349 (0.78)

(1,3,NONE)

$\bar{R}^2 = 0.783$

SEE = 0.009

D.W. = 1.987

Equation No.: 878

Name: Provincial Government Expenditures -- Goods and Services,
Wages and Salaries and SLI

Mnemonic: GEP.CGS.WS

Period: 1953-75

GEP.CGS.WS / (GRP\$ * 100 / PFGNE)

= + 0.11411
(23.47)

+ 395.14700 1 / (GRP\$ * 100 / PFGNE)
(45.36)

+ 0.003526 DURATE
(5.16)

+ 0.0004256 (((PFGNE / PFGNE(-1)) - 1) * 100)
(1.51)

$\bar{R}^2 = 0.994$

SEE = 0.004

D.W. = 1.825

Equation No.: 882

Name: Local Government Expenditures -- Goods and Services, Other Net
of Depreciation

Mnemonic: GEL.CGS.OGS

Period: 1955-75

GEL.CGS.OGS / (GRL\$ * 100 / PFGNE)

= + 0.05969
(2.40)

+ 120.37400 1 / (GRL\$ * 100 / PFGNE)
(2.50)

+ 0.28671 (GEL.CGS.OGS(-1) / (GRL\$(-1) * 100
(1.28) / PFGNE(-1)))

+ sum(i=0,2)b(i) 1 / DURATE(-i)

i	b(i)	t(i)
---	------	------

0	+0.07489	(1.58)
---	----------	--------

1	+0.04232	(1.87)
---	----------	--------

2	+0.00976	(0.19)
---	----------	--------

sum	+0.12697	(1.87)
-----	----------	--------

(1,3,NONE)

$\overline{R}^2 = 0.842$

SEE = 0.010

D.W. = 1.923

Equation No.: 883

Name: Local Government Expenditures -- Goods and Services, Municipal
(Excluding Schools)

Mnemonic: GEL.CGS.WSM

Period: 1953-75

GEL.CGS.WSM / (GRL\$ * 100 / PFGNE)

= + 0.12215
(19.15)

+ 514.49000 1 / (GRL\$ * 100 / PFGNE)
(60.97)

+ 0.001493 DURATE
(1.73)

+ 0.0013472 (((PFGNE / PFGNE(-1)) -1) * 100)
(4.00)

$\bar{R}^2 = 0.996$

SEE = 0.005

D.W. = 1.552

Equation No.: 844

Name: Local Government Expenditures -- Goods and Services,
Wages and Salaries, Municipal Schools

Mnemonic: GEL.CGS.WSS

Period: 1950-75

GEL.CGS.WSS / DEL+SEC-ENROL

= + 0.09900
(0.90)

- 749.18400 1 / DPOP
(1.18)

+ sum(i=0,3)b(i) ((DFPOP05.09(-i) + DMPOP05.09(-i)
+ DFPOP10.14(-i) + DMPOP10.14(-i)
+ DFPOP15.19(-i) + DMPOP15.19(-i)
/ DPOP(-i))

i	b(i)	t(i)
0	-0.37544	(0.22)
1	-2.73878	(1.55)
2	-0.80435	(0.46)
3	+5.42786	(2.93)
sum	+1.50928	(5.56)
(2,4,NONE)		

$R^2 = 0.978$

SEE = 0.008

D.W. = 1.374

EXPORTS OF GOODS AND SERVICES

Exports of merchandise goods are disaggregated by goods-producing industry, with further disaggregations of some individual commodity groups. This is accomplished by aggregating Trade of Canada data to a producing industry rather than to a purchasing industry framework. The export categories are close, and in most instances, are identical to the aggregation levels indicated in Table 1. In several cases, we have developed export equations for both the United States and for the rest of the world separately (motor vehicles, motor vehicle parts, pulp and newsprint). Because exports are disaggregated by producing industry, activity in the export block influences production levels directly through final demand conversion.

The invisibles or service receipts in the export account are disaggregated and include: (1) freight and shipping, (2) travel, (3) income receipts (U.S. and rest of world), and (4) other service receipts. There are certain service receipt items (income receipts from abroad) which do not influence domestic production because of the differences in the accounting framework associated with GNE versus RDP.

There are a number of export items that are treated as exogenous. These include energy-related exports of coal, electric power, petroleum and coal products, natural gas, crude petroleum and uranium as well as grains and stone, clay and glass products. These items are left exogenous either because of their high volatility and irregular movements or because of the government policy content associated with them.

The major activity variable which influences export demand is the level of industrial production in the OECD countries. This is aggregated as a trade-weighted OECD index reflecting the industrial production indices of the United States, United Kingdom, France, Germany, Italy and Japan, or as an overseas index excluding the United States. Specific activity variables associated with consumption, investment, output and income levels in the United States and overseas economies also influence export activity.

Income receipts from abroad are influenced not only by activity levels but also by U.S. interest rate composition and overseas exchange rate movements. Many of the export demand equations are also influenced by relative price and cyclical variables. The relative price terms in most cases are associated with a U.S. industry output price or final demand price adjusted for the exchange rate,

relative to a similar Canadian price. The export equations have high income elasticities, however the price elasticities are (in many cases) less than one.

In summary, the export equations in CANDIDE Model 2.0 are disaggregated by industry with further disaggregation into some individual commodity groups. The export equations generally follow the disaggregation levels indicated in Table 1. The total of export activity tallies to the GNE National Account concept, feeding to the expenditure side of the model. The disaggregated level of exports affects production levels directly in the system by way of final demand conversion. Choosing disaggregation levels by producing industry rather than by purchasing industry provides a clean mapping of export activity as it influences production levels. In general, the export equations are demand functions with activity, relative price, exchange rate, and cyclical variables used as right hand side explanatory information. In a few of the service receipt equations (those associated with income flows) foreign interest rates play a major role.

EXPORTS BLOCK

VARIABLES DETERMINED OUTSIDE THE EXPORTS BLOCK

INVENTORY CHANGE - AGRICULTURE
 CONSUMER EXPENDITURE - TRAVEL EXPENDITURE RECEIPTS
 UNEMPLOYMENT RATE - MALE AGED 25-54
 UNEMPLOYMENT RATE
 GROSS NATIONAL EXPENDITURE (1971\$)
 DEFATOR CONS EXPEND - FOOD & NON-ALCOHOLIC BEV
 EXPORT PRICE - CHEMICALS & PROD - WORLD
 EXPORT PRICE - ELECTRICAL MACH & EQUIP - WORLD
 EXPORT PRICE - FREIGHT & SHIPPING - WORLD
 EXPORT PRICE - INCOME RECEIPTS - WORLD
 EXPORT PRICE - MANUFACTURED NONDURABLES - WORLD
 EXPORT PRICE - MOTOR VEHICLES - WORLD
 EXPORT PRICE - TEXTILE MATERIALS - WORLD
 IMPORT PRICE - CHEMICALS - WORLD
 IMPORT PRICE - MISC MANUFACTURED GOODS
 IMPORT PRICE - MOTOR VEHICLES
 IMPORT PRICE - TEXTILES & MATERIALS WORLD
 SECTOR DEFATOR, AGRICULTURE FISH & TRAP INDST
 SECTOR DEFATOR, WOOD INDST
 SECTOR DEFATOR, PRIMARY METALS INDUSTRIES
 SECTOR DEFATOR, MINING TOTAL
 EXCHANGE RATE IN \$CAN PER UNIT OF \$US
 IMPORTS TOTAL GOODS - WORLD
 IMPORTS TRANSPORTATION EQUIPMENT - WORLD

.INVAG
 CSA14
 DMURATE25.54
 DURATE
 GNE
 PFCNF10
 PTE.CA.CHEMPRW
 PTE.CA.ELCMGW
 PTE.CA.FRSHW
 PTE.CA.INRCW
 PTE.CA.MFRNDW
 PTE.CA.MTVEHW
 PTE.CA.TEXTMW
 PTE.CA.CHEMW
 PTM.CA.MCMFRW
 PTM.CA.MTVEHW
 PTM.CA.TEXTMW
 PAXGFT121+41.7
 PAXEDR251.59
 PAXMDR291.98
 PAXMI
 REXCAN
 TMGW
 TNTRANSFW

VARIABLES EXOGENOUS TO THE EXPORTS BLOCK

DUMMY VARIABLE - TRADE BLOCK - AIRCRAFT EXPORTS
 DUMMY VARIABLE - TRADE BLOCK - BASE METALS
 DUMMY VARIABLE - TRADE BLOCK - DEWLINE CONSTRUCTION
 DUMMY VARIABLE - TRADE BLOCK - IRON & STEEL STRIKES
 DUMMY VARIABLE - TRADE BLOCK - LIVE ANIMAL CYCLE
 DUMMY VARIABLE - TRADE BLOCK - METAL MINING STRIKES
 DUMMY VARIABLE - TRADE BLOCK - NONFERROUS METALS
 DUMMY VARIABLE - TRADE BLOCK - TRANS CDA PIPELINE
 DUMMY VARIABLE - TRADE BLOCK - PAPER INDUSTRY STRIKE
 DUMMY VARIABLE - TRADE BLOCK
 DUMMY VARIABLE - TRADE BLOCK
 DUMMY VARIABLE - TRADE BLOCK
 DUMMY VARIABLE - TRADE BLOCK
 DUMMY VARIABLE - TRADE BLOCK
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 DUMMY VARIABLE - TRADE BLOCK
 DUMMY VARIABLE - TRADE BLOCK
 DUMMY VARIABLE - TRADE BLOCK

TDUMAIRXR
 TDUMBSMTL
 TDUMDEWLINE
 TDUMIRASR
 TDUMILVAN
 TDUMMTL
 TDUMNOFR
 TDUMPIPELINES7
 TDUMPPRSTRK
 TDUM5063
 TDUM58
 TDUM61
 TDUM64
 TDUM67
 TDUM69
 TDUM690N
 TDUM6970
 TDUM6970

DUMMY VARIABLE - TRADE BLOCK	TDUM73
DUMMY VARIABLE - TRADE BLOCK	TDUM74
DUMMY VARIABLE - TRADE BLOCK	TDUM75
EXPORTS COAL - WORLD	TECOALW
EXPORTS ELECTRICAL POWER - WORLD	TEELPOW
EXPORTS PETROLEUM & COAL PROD - WORLD	TEFUPTW
EXPORTS TOTAL GRAINS - WORLD	TEGRAINSW
EXPORTS RESIDUAL ERROR - WORLD	TEGMAP
EXPORTS NATURAL GAS - WORLD	TEGASW
EXPORTS STONE,CLAY & GLASS PROD - WORLD	TENMETMINPRW
EXPORTS RESIDUAL PETROLEUM - WORLD	TEPETOW
EXPORTS SERVICES - ADJUSTING ENTRY - WORLD	TEREMAW
EXPORTS URANIUM - WORLD	TESWA
DUMMY VARIABLE - TRADE BLOCK - MOTOR VEHICLE	TEURANW
DUMMY VARIABLE - TRADE BLOCK - MOTOR VEHICLE PARTS	TWAF15
FRANCE - INDEX OF TOTAL INDUSTRIAL PROD	TWAF16
FRANCE - TRADE WEIGHT, TOTAL FRENCH/CDN TRADE	ZFR1PR
FRANCE - EXCHANGE RATE - CDN.DOLLARS PER FR.FRANC	ZFRREX
GERMANY - EXPORT PRICE, AUTOS & PARTS - DEUTSCHE MARKS	ZFRTRDWT
GERMANY - INDEX OF INDUSTRIAL PROD, TOTAL	ZGFRDWT
GERMANY - EXCHANGE RATE - CDN. DOLLARS PER MARK	ZGFR1PR
GERMANY - TRADE WEIGHT, TOTAL GERMAN/CDN TRADE	ZGFRREX
ITALY - INDEX OF INDUSTRIAL PRODUCTION, TOTAL	ZGFRTRDWT
ITALY - EXCHANGE RATE - CDN.DOLLARS PER LIRE	ZIT1PR
ITALY - TRADE WEIGHT, TOTAL ITALIAN/CDN TRADE	ZITREX
JAPAN - INDEX OF INDUSTRIAL PRODUCTION, TOTAL	ZITTRDWT
JAPAN - EXCHANGE RATE - CDN. DOLLARS PER YEN	ZJA1PR
JAPAN - TRADE WEIGHT, TOTAL JAPANESE/CDN TRADE	ZJAREX
OVERSEAS - GROSS FIXED CAPITAL FORMATION - WTD	ZJATRDWT
OVERSEAS - NEWSPRINT CAPACITY	ZOSGFCFWT
OVERSEAS - NEWSPRINT DEMAND	ZOSNPCAP
UNITED KINGDOM - INDEX OF INDUSTRIAL PROD, TOTAL	ZOSNPDMD
UNITED KINGDOM - EXCHANGE RATE,CDN.DOLLARS PER POUND	ZUK1PR
UNITED KINGDOM - TRADE WEIGHT,TOTAL UK/CDN TRADE	ZUKREX
US - PERSONAL CONSUMPTION, TOTAL	ZUKTRDWT
US - PERSONAL CONSUMP EXPEND, DUR GOODS, MOTOR VEHs & PARTS	ZUSCE
US - PERSONAL CONSUMP EXPEND, DUR GOODS,FURN & HHOLD EQUIP	ZUSCEDA
US - PERSONAL CONSUMP EXPEND, NONDURABLE GOODS	ZUSCEDF
US - PERSONAL CONSUMP EXPEND, NONDURABLE GOODS, FOOD	ZUSCEN
US - PRIME COMMERCIAL PAPER 4-6 MONTHS	ZUSCENF
US - BOND RATE, TOTAL	ZUSFCMCP4M
US - PRIVATE NEW HOUSING UNITS STARTED, FARM & NONFARM, TOT	ZUSFRMCS
US - INVT, NONRES, STRUCTURES & EQUIP, FARM	ZUSHSPR
US - INVT, NEW PLANT & EQUIP (BEA-SEC),MANUFACT, DURABLES	ZUSIAAG
US - INVT, NEW PLANT&EQUIP(BEA-SEC),MFG,DUR,ELEC MACHINERY	ZUSIAMFD
US - INVT, NEW PLANT&EQUIP(BEA-SEC),MFG,DUR,TRAN EQ MOT VEH	ZUSIAMFD36
US - INVESTMENT, FIXED	ZUSIAMFD371
US - CHANGE IN INVENTORIES OF (DEALERS') NEW & USED AUTOS	ZUSIBF
US - FRB INDUSTRIAL PRODUCTION INDEX, TOTAL	ZUSIBITDAV
US - NEWSPRINT CAPACITY	ZUSIP
US - NEWSPRINT CONSUMPTION	ZUSNPCAP
US - UNEMPLOYMENT RATE, CIVILIAN LABOR FORCE	ZUSNSCONS
US - CONSUMER PRICE INDEX,ALL ITEMS	ZUSNEUT
US - IMPL DEFLATOR, PERSONAL CONSUMP EXPEND, NONDUR, FOOD	ZUSPCENF
US - IMPL DEFL, PERSONAL CONSUMP EXPEND, SERVICES,TRANSP	ZUSPDCEST
US - OUTPUT, PRICE DEFLATOR, AGRICULTURE, FORST&FISH	ZUSPXAG
US - OUTPUT, PRICE DEFLATOR, LUMBER & WOOD PROD, EXC,FURN	ZUSPXMFD24
US - OUTPUT, PRICE DEFLATOR, PRIMARY METALS	ZUSPXMFD33
US - OUTPUT, PRICE DEFLATOR, ELECTRICAL MACHINERY	ZUSPXMFD36
US - IMPORTS, DIRECT DEFENCE EXPENDITURES	ZUSPXMG
	ZUSTWBDE

ZUSXAG E
ZUSXMF E
ZUSXMF371 E
ZUSXMF37SP2 E
ZUSXMF26 E
ZUSYDIVT\$ E
ZUSYENTF\$ E

US - GROSS PROD, AGRICULTURE, FORESTRY & FISHERIES
US - GROSS PROD MANUF. DURABLE GOODS INDST
US - GROSS PROD, MFG DUR, TRANSPORT EQUIP
US - GROSS PROD, MFG. DUR. NONAUTO TRANS+ORD+MISC
US - GROSS PROD MFG. NONDUR. PAPER AND ALLIED PRODUCTS
US - DIVIDEND INCOME, TOTAL
US - PROPRIETORS' INCOME, FARM, WITH IVA&CAP CONSUMP ADJ

VARIABLES ENDOGENOUS TO THE EXPORT BLOCK (BOTH BEHAVIOURAL & IDENTITIES)

U.S. FARM INCOME (1972\$ ESTIMATES)

OVERSEAS EXCHANGE RATE (TRD.WTD.INDEX - 1971=100)

OVERSEAS INDUSTRIAL PRODUCTION INDEX (TRD.WTD 1971=100)

OVERSEAS CONSUMPTION EXPENDITURE (TRD.WTD 1971=100)

OECD INDUSTRIAL PROD INDEX (TRD.WTD) 1971=100)

OECD CONSUMPTION EXPENDITURE (TRD.WTD 1971=100)

EXPORTS TOTAL OTHER FARM - WORLD

EXPORTS AGRICULTURAL COMMODITIES - WORLD

EXPORTS FORESTRY - WORLD

EXPORTS TOTAL OTHER BASE METALS - WORLD

EXPORTS TOTAL NONMETALLIC MINERALS - WORLD

EXPORTS MINING - WORLD

EXPORTS WOOD & LUMBER - WORLD

EXPORTS TOTAL IRON & STEEL - WORLD

EXPORTS TOTAL NONFERROUS METALS - WORLD

EXPORTS FABRICATED METAL PROD - WORLD

EXPORTS AGRICULTURAL MACHINERY - WORLD

EXPORTS OTHER NONELECTRICAL MACHINERY - WORLD

EXPORTS ELECTRICAL MACHINERY & EQUIP - WORLD

EXPORTS TOTAL MACHINERY & EQUIP - WORLD

EXPORTS MOTOR VEHICLES - U.S.

EXPORTS MOTOR VEHICLES - ROW

EXPORTS MOTOR VEHICLES - WORLD

EXPORTS MOTOR VEHICLE PARTS - U.S.

EXPORTS MOTOR VEHICLE PARTS - ROW

EXPORTS MOTOR VEHICLE PARTS - WORLD

EXPORTS OTHER TRANSPORTATION EQUIP - WORLD

EXPORTS TRANSPORT EQUIPMENT - WORLD

EXPORTS DURABLE MANUFACTURED GOODS - WORLD

U.S. CONSUMPTION OF ALCOHOLIC BEVERAGES

EXPORTS ALCOHOLIC BEVERAGES & TOBACCO - WORLD

EXPORTS TOTAL OTHER FOODS - WORLD

EXPORTS TOTAL FOODS - WORLD

EXPORTS TOTAL RUBBER, LEATHER & CLOTHING - WORLD

EXPORTS TEXTILES - WORLD

EXPORTS NEWSPRINT - U.S.

EXPORTS NEWSPRINT - ROW

EXPORTS NEWSPRINT - WORLD

EXPORTS PULP - U.S.

EXPORTS PULP - ROW

EXPORTS PULP - WORLD

EXPORTS FURNITURE - WORLD

EXPORTS OTHER PAPER & PRINTING PROD - WORLD

EXPORTS PAPER & ALLIED PRODUCTS - WORLD

EXPORTS CHEMICALS & CHEMICAL PRODUCTS - WORLD

EXPORTS MISC MANUFACTURED PROD - WORLD

EXPORTS NONDURABLE MANUFACTURED GOODS - WORLD

ZUSYENTP

ZOSREXWT

ZOSIPR

ZOSCONSMT

ZOECDIPIR

ZOECDCONSWT

TEOTHFARMW

TEAGRW

TEFORESTRYW

TEOTHMETALSW

TENMETMINW

TENINW

TEWOLUMBW

TEIRASW

TENOFRTMW

TEFABRMTLW

TENAFAW

TENELECMEW

TELECEMEW

TEN+EW

TEMTRVEHU

TEMTRVEHR

TEMTRVEHW

TEMTRVPARTSU

TEMTRVPARTSR

TEMTRVPARTSW

TERETW

TEPTW

TEFRDW

ZUSCNFTA

TEALCO+TOBW

TEFOODPRW

TEFOODW

TERBLTHCLTHW

TETEXTILESW

TENPRTU

TENPRTR

TENPRMW

TEPULPU

TEPULPR

TEPULPW

TEFURNW

TEOPAPRW

TEPAPERW

TECHEMW

TEMSMRPRW

TEMRNDW

= ZUSYENTFS / ZUSPC
= ((ZUKREX / 2.4687) * ZUKTRDWT) + ((ZGFRREX / .2900) * ZGFRTRDWT) + ((ZFRREX / .1833) * ZFRTRDWT) + ((ZITREX / .001687) * ZITTRDWT) + ((ZJAREX / .002912) * ZJATRDWT)
= ZFRTRDWT * ZFRIPR + ZGFRTRDWT * ZGFRIPR + ZITTRDWT * ZITIPR + ZJATRDWT * ZJAIPIR + ZUKTRDWT * ZUKIPR
B = (0.667 * (ZUSIP / 109.6) * 100) + 0.333 * ZOSIPR
= (0.667 * (ZUSCE / 691.974) * 100) + 0.333 * ZOSCONSMT

B = TEGRAINSW + TEOTHFARMW

B = TEGRAINSW + TEOTHFARMW

B = TEGRAINSW + TEOTHFARMW

B = TEGRAINSW + TEOTHFARMW

B = TEGRAINSW + TEOTHFARMW

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B = TEGRAINSW + TEOTHFARMW

EXPORTS MANUFACTURED GOODS - WORLD
 EXPORTS RE-EXPORTS - WORLD
 EXPORTS SPECIAL TRANSACTIONS - WORLD
 EXPORTS TOTAL GOODS - WORLD

EXPORTS SERVICE RECEIPTS - FREIGHT & SHIPPING - WORLD
 EXPORTS SERVICE RECEIPTS - TRAVEL - WORLD
 EXPORTS SERVICE RECEIPTS - INCOME RECEIPTS - U.S.
 EXPORTS SERVICE RECEIPTS - INCOME RECEIPTS - ROW
 EXPORTS SERVICE RECEIPTS - INCOME RECEIPTS - WORLD
 EXPORTS SERVICE RECEIPTS - OTHER SERVICES - WORLD
 EXPORTS TOTAL SERVICE RECEIPTS - WORLD

EXPORTS TOTAL GOODS & SERVICES - NA BASIS - WORLD
 EXPORTS TOTAL SERVICE RECEIPTS - WORLD(I/O CONCEPT)

TEMPRW
 TERXPTW
 TESPECW
 TEGW
 TESFRSHW
 TESTRAVELW
 TESINCRUCU
 TESINCRRCR
 TESINCRWCW
 TESOTHSERW
 TESW
 TEG+SNAW
 TESWP

= TEMFRDW + TEMFRNDW
 B
 B
 = TEAGRW + TEFORESTRYW + TEMINW + TEMFRW
 + TERXPTW + TESPECW - TEGWAP
 B
 B
 B
 B
 = TESINCRUCU + TESINCRRCR
 B
 = TESFRSHW + TESTRAVELW + TESINCRWCW + TESOTHSERW
 TESWA
 = TEGW + TESW + TEREMAW
 = TESFRSHW + TESTRAVELW + TESOTHSERW

Equation No.: 2797

Name: Overseas Consumption Expenditure

Mnemonic: ZOSCONSWT

Period: 1957-75

$\ln(\text{ZOSCONSWT})$

= - .94180
(10.35)

- .037428 TDUM75
(1.30)

+ $\sum(i=0,2)b(i) \ln(\text{ZOSIPR}(-i))$

i	b(i)	t(i)
---	------	------

0	+.74593	(5.84)
---	---------	--------

1	+.067427	(0.37)
---	----------	--------

2	+.39732	(2.60)
---	---------	--------

sum	+1.21068	(55.42)
-----	----------	---------

(2,3,NONE)

$\bar{R}^2 = .997$

SEE = .0164

D.W. = 1.125

Equation No.: 678

Name: Exports Total Other Farm -- World

Mnemonic: TEOTHFARMW

Period: 1955-74

TEOTHFARMW

=	- 299.31300	
	(4.20)	
+	3.28837	ZOECDCONSWT
	(13.20)	
+	4.36995	(ZUSPXAG * REXCAN / PXAGFT1.21+41.7)
	(5.33)	
+	92.27910	TDUMLVAN
	(5.30)	
-	.033743	.INVAG(-1)
	(1.55)	

$\bar{R}^2 = 0.912$

SEE = 19.634

D.W. = 2.283

Equation No.: 680

Name: Exports Forestry -- World

Mnemonic: TEFORESTRYW

Period: 1956-75

TEFORESTRYW

= + 45.94430
(0.69)

+ 1.77333 ZUSXAG
(0.66)

- 6.07072 ZUSNRUT
(2.66)

- .020185 TEWOLUMBW
(1.14)

- .016526 TEPULPW
(0.76)

+ 26.17860 TDUM70
(3.98)

$\bar{R}^2 = .654$

SEE = 6.264

D.W. = 1.381

Equation No.: 682

Name: Exports Total Other Base Metals -- World

Mnemonic: TEOTHMETALSW

Period: 1955-75

TEOTHMETALSW

=	-	1103.11000	
		(5.00)	
+	3.54053	ZUSXMFD	
	(3.62)		
+	11.39280	ZOSIPR	
	(8.09)		
+	146.16100	TDUMBSMTL	
	(4.55)		
+	547.13200	REXCAN(-1)	
	(2.31)		

$\overline{R}^2 = .988$

SEE = 39.910

D.W. = 2.277

RHO = -.236

Equation No.: 686

Name: Exports Total Nonmetallic Minerals -- World

Mnemonic: TENMETMINW

Period: 1955-74

TENMETMINW

```
= - 133.28000
    (2.38)

+ 3.77370      ZOECDIPR
    (21.21)

- 22.09500      TDUM58
    (2.41)

+ sum(i=1,3)b(i) (ZUSPXMG(-i) * REXCAN(-i) / PXMI(-i))

i      b(i)      t(i)

1      +.12330    (0.24)
2      +.39406    (2.09)
3      +.35296    (1.19)

sum    +.87032    (2.08)

      (2,3,FAR)
```

$\bar{R}^2 = .989$ SEE = 8.228 D.W. = 2.307

Equation No.: 688

Name: Exports Wood and Lumber -- World

Mnemonic: TEWOLUMBW

Period: 1955-74

TEWOLUMBW

= - 656.79600
(4.37)

+ 4.95929 ZUSIBF
(3.37)

+ .079347 ZUSHSPR
(2.56)

+ 2.56412 ZOSGFCFWT
(1.56)

+ sum(i=1,3)b(i) (ZUSPXMFD24(-i) * REXCAN(-i) / PXMFD251.59(-i))

i b(i) t(i)

1 +2.40741 (1.95)

2 +1.63160 (3.54)

3 + .82913 (1.16)

sum +4.86814 (4.87)

(2,3,FAR)

$\bar{R}^2 = 0.976$

SEE = 32.281

D.W. = 1.787

Equation No.: 689

Name: Exports Iron and Steel and Alloys -- World

Mnemonic: TEIRASW

Period: 1955-74

TEIRASW

```
= - 279.28100
    (10.38)

+   .61594      ZUSXMFD
    (2.16)

+   2.85756      ZOSIPR
    (6.26)

+   33.86830     TDUMIRASR
    (5.61)

+ sum(i=1,2)b(i) (ZUSPXMFD33(-i) * REXCAN(-i) / PXMFD33(-i))

i      b(i)      t(i)

1      + .73813   (4.28)
2      +1.47625   (4.28)

sum    +2.21438   (4.28)

      (1,2,NEAR)
```

$\bar{R}^2 = .982$ SEE = 13.392 D.W. = 2.278

Equation No.: 690

Name: Exports Total Nonferrous Metals -- World

Mnemonic: TENOFRTW

Period: 1957-74

TENOFRTW

=	+	89.77630 (0.59)	
	+	3.56960 (2.92)	ZUSXMFD
	+	5.78951 (3.21)	ZOSIPR
	+	127.95000 (4.18)	TDUMNOFR
	+	1.87162 (0.77)	(ZUSPXMFD33(-1) * REXCAN(-1) / PXMFD291.98(-1))
	+	113.52400 (1.95)	TDUM61

$\bar{R}^2 = .953$

SEE = 52.171

D.W. = 1.437

Equation No.: 691

Name: Exports Fabricated Metal Products -- World

Mnemonic: TEFABRMTLW

Period: 1958-75

TEFABRMTLW

=	- 323.65600	
	(8.82)	
+	4.73317	ZOECDI PR
	(18.02)	
+	15.62400	TDUMMTL
	(2.49)	
+	12.14340	DURATE
	(2.89)	

$\bar{R}^2 = 0.974$ $SEE = 16.029$ $D.W. = 1.188$ $RHO = 0.362$

Equation No.: 692

Name: Exports Agricultural Machinery -- World

Mnemonic: TEMAFW

Period: 1958-75

ln(TEMAFW)

= + 3.94732
(5.49)

+ 1.67295 ln(ZUSIAAG)
(10.99)

- .064872 TDUM75
(0.41)

+ sum(i=1,3)b(i) ln(ZUSYENTF(-i))

i	b(i)	t(i)
1	+.020696	(0.22)
2	+.23918	(1.99)
3	+.65545	(2.12)

sum +.91532 (2.25)

(2,3,NEAR)

$\bar{R}^2 = .946$

SEE = .0734

D.W. = 1.581

Equation No.: 693

Name: Exports Other Nonelectrical Machinery -- World

Mnemonic: TENELECMEW

Period: 1958-75

$\ln(\text{TENELECMEW})$

= - 2.78156
(5.23)

+ 1.52990 $\ln(\text{ZOSGFCFWT})$
(8.01)

+ .68632 $\ln(\text{ZUSIAMFD})$
(5.27)

+ .21709 $(\text{TDUM69ON} * 0.5)$
(1.41)

+ .25045 TDUM75
(3.17)

$\bar{R}^2 = .991$

SEE = .0722

D.W. = 1.935

Equation No.: 694

Name: Exports Electrical Machinery and Equipment -- World

Mnemonic: TEELECMEW

Period: 1957-75

TEELECMEW

= - 740.04600
(4.60)

+ 4.93078 ZOSGFCFWT
(7.06)

+ 81.11600 ZUSIAMFD36
(2.82)

+ 4.56363 (ZUSPXMFD36 * REXCAN / PTE.CA.ELCMEW)
(3.15)

+ 140.08400 (TDUM74 + TDUM75)
(5.38)

$\bar{R}^2 = .980$ $SEE = 26.446$ $D.W. = 1.360$ $RHO = .309$

Equation No.: 2788

Name: Exports Motor Vehicles -- United States

Mnemonic: TEMTRVEHU

Period: 1953-75

TEMTRVEHU

=	- 226.90000	
	(1.84)	
	+ 228.40900	TDUM5063
	(1.81)	
	+ 251.27500	TDUM64
	(1.66)	
	- 441.23000	TDUM70
	(4.55)	
	+ .10026	((TWAF5 **3) * ZUSCEDA)
	(2.98)	
	+ 113.46400	(TWAF6(-1) * ZUSIAMFD371(-1))
	(7.52)	
	+ 249.63200	(TWAF5 * (PTM.CA.MTRVEHW / PTE.CA.MTVEHW))
	(3.90)	

$\bar{R}^2 = .995$

SEE = 87.125

D.W. = 1.639

Equation No.: 2796

Name: Exports Motor Vehicles -- Rest of World

Mnemonic: TEMTRVEHR

Period: 1960-75

TEMTRVEHR

= - 51.60150 TDUM5063
(4.38)

+ .081950 (TWAF5 * ZSGFCFWT)
(3.06)

+ 152.16800 TDUM75
(7.71)

+ sum(i=1,2)b(i) (ZGFRAUTO(-i) * ZGFRREX(-i) / PTE.CA.MTVEHW(-i))

i	b(i)	t(i)
1	+1.22832	(9.24)
2	+2.45665	(9.24)
sum	+3.68497	(9.24)
(1,2,NEAR)		

$\bar{R}^2 = .950$ SEE = 18.462 D.W. = 2.457 RHO = -.220

Equation No.: 2799

Name: Exports Motor Vehicle Parts -- United States

Mnemonic: TEMTRVPARTSU

Period: 1959-75

TEMTRVPARTSU

=	+	29.01900	
		(1.14)	
	+	3.23718	(TWAF6 * ZUSCEDA)
		(3.53)	
	+	.82076	((TWAF6 **2) * ZUSXMGD371)
		(2.55)	
	+	37.44100	ZUSIBITDAV(-1)
		(1.76)	
	-	184.78800	TDUM6970
		(3.64)	

$\bar{R}^2 = .992$

SEE = 63.898

D.W. = 1.473

Equation No.: 2803

Name: Exports Motor Vehicle Parts -- Rest of World

Mnemonic: TEMTRVPARTSR

Period: 1958-75

TEMTRVPARTSR

= - 17.80850
(0.23)

+ 23.04410 ZOSREXWT
(0.33)

+ sum(i=0,4)b(i) TEMTRVEHR(-i)

i	b(i)	t(i)
0	+ .15644	(2.22)
1	+ .14594	(8.96)
2	+ .12504	(3.37)
3	+ .093750	(1.90)
4	+ .052071	(1.40)

sum + .57324 (7.40)
(2,5,FAR)

$\bar{R}^2 = .832$

SEE = 14.341

D.W. = 2.889

Equation No.: 698

Name: Exports Other Transportation Equipment -- World

Mnemonic: TERETRW

Period: 1959-75

TERETRW

=	- 830.82800	
	(12.02)	
+	14.74170	ZUSXMFD37SP2(-1)
	(2.18)	
+	9.27101	ZOSIPR
	(10.26)	
+	74.41960	TDUMAIRXR
	(5.08)	
+	27.22900	ZUSTMBDE
	(1.20)	

$\overline{R}^2 = .974$

SEE = 34.999

D.W. = 2.138

Equation No.: 2808

Name: U.S. Consumer Spending on Alcoholic Beverages

Mnemonic: ZUSCENFTA

Period: 1952-75

ZUSCENFTA

= + .121572
(0.09)

+ sum(i=0,4)b(i) ZUSCENF(-i)

i	b(i)	t(i)
0	+.00461428	(0.27)
1	+.0128003	(0.59)
2	+.0245581	(1.86)
3	+.0398875	(4.58)
4	+.0587888	(1.38)

sum +.140649 (12.98)

(2,5,NEAR)

$\bar{R}^2 = .963$

SEE = .541

D.W. = 0.620

RHO = 0.672

Equation No.: 702

Name: Exports Alcoholic Beverages and Tobacco -- World

Mnemonic: TEALCO+TOBW Period: 1958-75

TEALCO+TOBW

= - 141.83200
(5.00)
+ 23.68950 ZUSCENFTA
(23.50)
+ sum(i=1,5)b(i) ZUSNRUT(-i)

i	b(i)	t(i)
1	+ .40309	(0.21)
2	-4.40662	(4.75)
3	-6.85179	(7.07)
4	-6.93241	(6.40)
5	-4.64848	(5.90)
sum	-22.43620	(6.36)
	(2,5,FAR)	

$\bar{R}^2 = .977$ SEE = 9.636 D.W. = 1.946

Equation No.: 703

Name: Exports Total Other Foods -- World

Mnemonic: TEFOODPRW

Period: 1956-75

TEFOODPRW

= - 1747.57000
(6.23)

+ 1.42132 ZOECDCONSWT
(2.23)

+ 11.94220 DURATE
(1.96)

+ sum(i=0,4)b(i) (ZUSPDCENF(-i) * REXCAN(-i) / PFCNF10(-i))

i	b(i)	t(i)
0	+ .23506	(0.23)
1	+4.71535	(7.12)
2	+6.93199	(6.35)
3	+6.88497	(5.77)
4	+4.57431	(5.48)

sum +23.34170 (7.00)
(2,5,FAR)

$\bar{R}^2 = 0.969$ SEE = 20.417 D.W. = 1.822 RHO = 0.048

Equation No.: 705

Name: Exports Total Rubber, Leather and Clothing -- World

Mnemonic: TERBLTHCLTHW

Period: 1959-75

TERBLTHCLTHW

= - 255.85800
(19.23)

+ 45.64560 TDUM73
(5.53)

+ sum(i=1,5)b(i) ZUSCEN(-i)

i	b(i)	t(i)
---	------	------

1	- .31983	(0.97)
---	----------	--------

2	+ .24733	(4.11)
---	----------	--------

3	+ .56290	(5.12)
---	----------	--------

4	+ .62686	(3.58)
---	----------	--------

5	+ .43923	(3.17)
---	----------	--------

sum +1.55650 (23.72)

(2, 5, FAR)

$\overline{R}^2 = .983$

SEE = 7.554

D.W. = 2.118

Equation No.: 706

Name: Exports Textiles -- World

Mnemonic: TETEXTILESW

Period: 1952-75

TETEXTILESW

= - 120.87600
(5.10)

+ 1.68502 ZOECDCONSWT
(21.72)

- 27.15800 TDUM75
(3.66)

+ 49.04060 (PTM.CA.TEXTMW / PTE.CA.TEXTMTW)
(2.61)

$\bar{R}^2 = .962$

SEE = 6.517

D.W. = 2.081

Equation No.: 2813

Name: Exports Newsprint -- United States

Mnemonic: TENPRTU

Period: 1952-75

TENPRTU

= + 104.94600
(3.55)

- .078382 ZUSNPCAP
(5.73)

+ .115074 ZUSNPCONS
(14.66)

- 56.27650 TDUM75
(2.90)

$\bar{R}^2 = 0.976$

SEE = 16.602

D.W. = 1.756

Equation No.: 2816

Name: Exports Newsprint -- Rest of World

Mnemonic: TENPRTR

Period: 1954-75

TENPRTR

=	-	9.28286	
		(0.53)	
	+	.048016	ZOSNPDMD
		(5.99)	
	-	.032625	ZOSNPCAP
		(3.81)	
	-	22.41770	TDUMPPRSTRK
		(2.66)	
	+	5.17749	DURATE
		(1.94)	

$\bar{R}^2 = 0.945$ SEE = 11.665 D.W. = 1.105 RHO = 0.402

Equation No.: 2820

Name: Exports Pulp -- United States

Mnemonic: TEPULPU

Period: 1953-75

TEPULPU

= - 395.72100
(3.95)

+ 51.45730 ZUSXMFN26
(21.57)

- 53.13420 TDUMPPRSTRK
(4.86)

+ 367.16800 REXCAN
(3.65)

$\bar{R}^2 = 0.979$ SEE = 16.156 D.W. = 1.214 RHO = 0.376

Equation No.: 2822

Name: Exports Pulp -- Rest of World

Mnemonic: TEPULPR

Period: 1957-75

ln(TEPULPR)

= - 14.49220
(10.11)

+ 1.14083 ln(ZOSIPR(-1))
(2.76)

+ 1.59637 ln(ZOSNPDMD)
(4.69)

- .03303 TDUMPPRSTRK
(0.39)

$\bar{R}^2 = 0.984$

SEE = .089

D.W. = 1.950

Equation No.: 709

Name: Exports Furniture -- World

Mnemonic: TEFURNW

Period: 1959-74

TEFURNW

= - 43.52350
(1.71)
+ .880816 ZUSCEDF
(4.01)
+ sum(i=0,3)b(i) (ZUSPXMFD24(-i) * REXCAN(-i) / PXMFD251.59(-i))
+ sum(i=0,2)c(i) DURATE(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.052541	(0.55)	+1.58705	(1.62)
1	+.053326	(0.77)	+ .16090	(0.24)
2	+.044831	(0.72)	- .36812	(0.43)
3	+.027056	(0.63)		
sum	+.17775	(0.77)	+1.37982	(1.12)
	(2,4,FAR)		(2,3,FAR)	

$\overline{R}^2 = 0.914$ SEE = 2.457 D.W. = 1.094 RHO = 0.418

Equation No.: 710

Name: Exports Other Paper and Printing Products -- World

Mnemonic: TEOPAPRW

Period: 1960-75

ln(TEOPAPRW)

= - 7.56476
(23.00)

+ 2.81749 ln(ZOECDCONSWT)
(37.89)

- .38878 TDUM75
(7.56)

+ .55810 ln(REXCAN(-1))
(1.74)

$\overline{R}^2 = .994$

SEE = .045

D.W. = 1.457

RHO = .235

Equation No.: 714

Name: Exports Chemicals and Chemical Products -- World

Mnemonic: TECHEMW

Period: 1955-75

TECHEMW

= - 681.09900
(6.66)

+ 6.32215 ZOECDIPR
(10.82)

+ 8.09013 DMURATE25.54
(1.96)

+ sum(i=1,5)b(i) (PTM.CA.CHEMW(-i) / PTE.CA.CHEMPRW(-i))

i	b(i)	t(i)
1	+ 91.23350	(0.75)
2	+ 63.28350	(1.18)
3	+ 72.79150	(0.69)
4	+119.75800	(1.71)
5	+204.18200	(2.05)

sum +551.24800 (3.83)
(2,5,NONE)

$\bar{R}^2 = 0.988$

SEE = 19.371

D.W. = 1.603

Equation No.: 715

Name: Exports Miscellaneous Manufactured Products -- World

Mnemonic: TEMSMFRPRW

Period: 1959-75

TEMSMFRPRW

= - 550.34700
(4.05)

+ 8.03364 ZOECDCONSWT
(16.79)

+ 148.46000 (PTM.CA.MCMFRW(-1) / PTE.CA.MFRNDW(-1))
(1.33)

- 149.370000 TDUM69
(7.27)

$\bar{R}^2 = 0.976$

SEE = 23.212

D.W. = 1.120

RHO = .409

Equation No.: 718

Name: Exports Re-exports -- World

Mnemonic: TERXPTW

Period: 1958-75

TERXPTW

= - 928.09500
(8.75)

- 117.54000 TDUM75
(4.85)

+ sum(i=0,4)b(i) (TMGW(-i) - TMTRANSPW(-i))

+ sum(i=1,3)c(j) REXCAN(-i)

i	b(i)	t(i)	c(i)	t(i)
0	+.00040143	(0.17)		
1	+.0032291	(1.15)	+328.22700	(2.13)
2	+.0084829	(6.03)	+293.21800	(4.16)
3	+.016163	(7.47)	+183.80900	(1.64)
4	+.026269	(3.56)		
sum	+.054545	(14.02)	+805.25300	(7.73)
	(2,5,NEAR)		(2,3,FAR)	

$\bar{R}^2 = .980$

SEE = 17.874

D.W. = 2.099

Equation No.: 719

Name: Exports Special Transactions -- World

Mnemonic: TESPECW

Period: 1957-75

TESPECW

= - 37.01140
(1.72)

+ 34.48100 REXCAN
(1.65)

- 7.01516 TDUM67
(1.67)

+ 6.62671 TDUM67(-1)
(1.57)

+ sum(i=0,2)b(i) (TEGW(-i) - TETPTW(-i) - TESPECW(-i)
- TERXPTW(-i))

i	b(i)	t(i)
0	+.00054954	(10.73)
1	+.0010991	(10.73)
2	+.0016486	(10.73)
sum	+.0032972	(10.73)

(1,3,NEAR)

$\bar{R}^2 = .873$

SEE = 3.924

D.W. = 2.096

Equation No.: 721

Name: Exports Service Receipts -- Freight and Shipping -- World

Mnemonic: TESFRSHW Period: 1956-75

TESFRSHW

$$\begin{aligned}
&= \quad - \quad 459.07300 \\
&\qquad (2.84) \\
&+ \quad \quad .042255 \qquad \text{TEGW} \\
&\qquad (15.43) \\
&+ \quad 101.65300 \qquad \text{TDUMPIPELINE57} \\
&\qquad (4.26) \\
&+ \quad 111.08300 \qquad \text{TDUM74} \\
&\qquad (3.27) \\
&- \quad 123.36800 \qquad \text{TDUM72} \\
&\qquad (3.81) \\
&+ \text{sum}(i=0,3)b(i) \quad (ZUSPDCEST(-i) * REXCAN(-i) / PTE.CA.FRSHW(-i))
\end{aligned}$$

i	b(i)	t(i)
0	+ .878280	(7.56)
1	+1.756560	(7.56)
2	+2.634840	(7.56)
3	+3.513120	(7.56)
sum	+8.782800	(7.56)
	(1,4,NEAR)	

$$\overline{R}^2 = .957 \qquad \text{SEE} = 29.384 \qquad \text{D.W.} = 2.306$$

Equation No.: 722

Name: Exports Service Receipts -- Travel -- World

Mnemonic: TESTRAVELW

Period: 1954-75

TESTRAVELW

= + 1.67419
(0.19)

+ 1.00738 CSA14
(109.45)

$\bar{R}^2 = .998$

SEE = 13.599

D.W. = 1.363

Equation No.: 2828

Name: Exports Service Receipts -- Income Receipts -- United States

Mnemonic: TESINCRUCU

Period: 1956-75

TESINCRUCU * PTE.CA.INRCW

=	- 172.30700	
	(15.69)	
+	12.98640	ZUSYDIVT\$
	(7.05)	
+	76.47970	TDUM70
	(4.28)	
-	75.18290	TDUM67
	(5.32)	
-	91.73480	TDUM75
	(5.14)	
+	sum(i=0,2)b(i) (.30 * ZUSFRMCS(-i) + .70 * ZUSFRMCP4M(-i))	

i	b(i)	t(i)
0	+19.56860	(4.48)
1	+17.54410	(6.94)
2	+11.02130	(5.04)
sum	+48.13400	(6.88)
	(2,3,FAR)	

$\overline{R^2} = .993$	SEE = 13.676	D.W. = 2.378
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Equation No.: 2832

Name: Exports Service Receipts -- Income Receipts - Rest of World

Mnemonic: TESINCRCR

Period: 1955-75

TESINCRCR

= - 304.18300
(2.79)

+ 5.24987 ZOSIPR
(8.90)

+ 163.11000 TDUM690N
(6.57)

+ 235.01300 TDUM75
(10.67)

+ 94.03770 ZOSREXWT
(0.83)

$\bar{R}^2 = .991$ $SEE = 19.664$ $D.W. = 1.779$ $RHO = 0.158$

Equation No.: 724

Name: Exports Service Receipts -- Other Services -- World

Mnemonic: TESOTHSERW

Period: 1955-75

TESOTHSERW

=	-	74.57390	
		(2.41)	
	+	.0110751	GNE(-1)
		(27.08)	
	+	321.81200	TDUMDEWLINE
		(11.45)	
	+	119.50000	TDUM6970
		(4.59)	

$\bar{R}^2 = .976$

SEE = 34.196

D.W. = 2.027

IMPORTS OF GOODS AND SERVICES

Imports of goods in CANDIDE Model 2.0 are disaggregated by commodity categories which, in many cases, broadly approximate a producing industry breakdown. As in other final demand categories, the import total tallies to the GNE expenditure item in the National Accounts identity, while the detailed import categories influence industry production levels via final demand conversion. Although similar, the commodity breakdown does not conform exactly to the detail of Table 1 (a few of the import categories contain more than one of the commodities listed and some commodities are spread across several industries). Income payments to abroad are netted out and do not influence domestic production levels via final demand conversion because of the difference between the GNE and RDP concepts.

The merchandise import equations contain activity variables which are either industry specific or associated with a particular final demand category (consumption, investment, inventory change, et cetera). The import equations also include relative price terms which are specified in two ways: a U.S. industry or final demand

deflator, adjusted for the exchange rate, relative to a similar Canadian price; or a Canadian import deflator (which is implicitly a foreign price adjusted for exchange rate movements), relative to a Canadian export price. There are several instances where imports from the United States are treated separately from imports from the rest of the world (motor vehicles, motor vehicle parts, and industrial machinery).

A number of items in the goods accounts are exogenous. These include imports of coal, imports of other fuels and products, and imports of crude petroleum. The crude petroleum imports have been left exogenous because of the heavy influence of government policy in this area.

The service account associated with imports includes the following items: (1) freight and shipping, (2) travel, (3) income payments, and (4) other services. The income payments aggregate is divided into three sub-aggregates: income payments excluding dividends, dividend payments, and federal nonresident direct taxes (withholding taxes). The nonresident direct taxes are determined in the federal revenue block. The dividend payments are determined in current dollars, and are related directly to dividends paid to nonresidents. The income payments equation, net

of federal direct taxes and dividends, is a rate-base equation. These payments depend upon the stock of outstanding foreign held provincial, municipal, and federal debt multiplied by the appropriate interest rate plus the assets of life insurance companies multiplied by the appropriate interest rate. The stock of provincial and municipal debt is determined in the revenue and expenditure block as is the stock of federal debt. The assets of life insurance companies are determined in the mortgage sub model of the financial block. As a result federal fiscal policy and municipal and provincial debt policy can influence the balance of payments via income payments made to service foreign debt. The price elasticities implied by the import equations suggest an overall average goods elasticity which is greater than one in the long run. The activity or income elasticity is also fairly high.

VARIABLES DETERMINED OUTSIDE THE IMPORTS BLOCK

CHANGE IN FARM INVENTORIES	
INVENTORY CHANGE - MANUF DURABLES	.INVFARM\$
INVENTORY CHANGE - MANUFACTURING NONDURABLES	.INVMFDR
INVENTORY CHANGE - OTHER INDUSTRIES	.INVMEND
INVENTORY CHANGE - RAW MATERIALS TOTAL	.INVOTH
CONSUMER EXPEND - RECREATION SPORT & CAMP EQUIP	CDEI0
CONSUMER EXPEND - NEW PASSENGER CARS	CDT11
CONSUMER EXPEND - REPAIR AND PARTS	CDT20
CONSUMER EXPEND - TOTAL SEMI-DUR AS PER N.A.	CH
CONSUMER EXPEND - MEN'S AND BOYS' CLOTHING	CHC10
CONSUMER EXPEND - WOMEN'S GIRLS' & INFANTS' WEAR	CHC20
CONSUMER EXPEND - SEMI-DURABLE HHOLD FURNISHINGS	CHH30
CONSUMER EXPEND - TOTAL NON-DURABLES AS PER N.A.	CN
CONSUMER EXPEND - FOOD & NON-ALCOHOLIC BEVERAGES	CNF10
CONSUMER EXPEND - ALCOHOLIC BEVERAGES	CNF20
CONSUMER PRICE INDEX	CPI
CONSUMER EXPEND - TRAVEL EXPENDITURE SERVICES	CSA11
UNEMPLOYMENT RATE - MALE - AGED 25-54	DMURATE25.54
TOTAL POPULATION CANADA	DPOP
UNEMPLOYMENT RATE	DURATE
ASSETS OF LIFE INSURANCE COMPANIES	FASSETS.LI
90-DAY FINANCE CO PAPER RATE	FRATE.FCPAPER3M
GOVT OF CDA BOND YIELD AVG 10 YRS & OVER	FRATE.GBOND.10Y
FED GOVT EXPEND - CURRNT GDS & SRVS, DEFENCE	GEF.CGS.D
GROSS NATIONAL EXPENDITURE (1971\$)	GNE
INV AGRIC FISH & TRAP INDST - MACH & EQUIP	IAGFTM
INV BUS MACH & EQUIP - NAT. ACC.	IBNAM
INV COMMER SVCS INDST - MACH & EQUIP	ISVCMH
INV TRANSPORT INDST - MACH & EQUIP & CIOCE	ITRSPM501.27
DEFLATOR CONS EXPEND - TOTAL	PFC
DEFLATOR CONS EXPEND - FURNITURE & CARPETS	PFCDH10
DEFLATOR CONS EXPEND - TOTAL SEMI-DUR AS PER N.A.	PFC
DEFLATOR CONS EXPEND - FOOD & NON-ALCOHOLIC BEV	PFCNF10
PERMANENT INCOME PROXY DEFLATOR	PFCPIP
DEFLATOR CONS EXPEND - TOTAL SERVICES AS PER N.A.	PFC
DEFLATOR INVENTORY - AGRICULTURE	PFINVAG
EXPORT PRICE - CHEMICALS & PROD - WORLD	PTE.CA.CHEMPRW
EXPORT PRICE - ELECTRICAL MACH & EQUIP - WORLD	PTE.CA.ELCMW
EXPORT PRICE - FREIGHT & SHIPPING - WORLD	PTE.CA.FRSHW
EXPORT PRICE - AGRICULTURAL MACHINERY - WORLD	PTE.CA.MAFW
EXPORT PRICE - MOTOR VEHICLES - WORLD	PTE.CA.MTVEHW
EXPORT PRICE - NONELECTRIC MACH & EQUIP - WORLD	PTE.CA.NELMHW
EXPORT PRICE - RUBBER, LEATHER & CLOTHING GDS - WORLD	PTE.CA.RBLTHCLW
EXPORT PRICE - TEXTILE MATERIALS - WORLD	PTE.CA.TEXTMTW
IMPORT PRICE - APPAREL & HHOLD GOODS - WORLD	PTM.CA.APHTW
IMPORT PRICE - CHEMICALS - WORLD	PTM.CA.CHEMW
IMPORT PRICE - FREIGHT & SHIPPING - WORLD	PTM.CA.FRSHW
IMPORT PRICE - INDUSTRIAL MACHINERY - WORLD	PTM.CA.INMHW
IMPORT PRICE - INCOME PAYMENTS - WORLD	PTM.CA.INPYW
IMPORT PRICE - AGRICULTURAL MACHINERY - WORLD	PTM.CA.MAFW
IMPORT PRICE - MOTOR VEHICLES - WORLD	PTM.CA.MTRVEHW

IMPORT	- MTR VEHICLE PARTS - WORLD	PT	.MTRVPRTW
IMPORT PRICE	- OTHER CR. MATERIALS - WORLD	PTW.CA	.OCRMTW
IMPORT PRICE	- PROCESSED MATERIALS - WORLD	PTW.CA	.PROCW
IMPORT PRICE	- TEXTILES & MATERIALS - WORLD	PTW.CA	.TEXTW
SECTOR DEFATOR, AGRIC, FISH & TRAP INDST		PXAGFTI.	21+41.7
SECTOR DEFATOR, MANUFACTURING, TOTAL		PXMF	
SECTOR DEFATOR, PRIMARY METALS INDST		PXMFDR291.	98
SECTOR DEFATOR, METAL FABRICATING INDST		PXMFDR301.	99
SECTOR DEFATOR, ELECTRICAL PROD INDST		PXMFDR331.	39
SECTOR DEFATOR, NON METALLIC MINERAL PROD INDST		PXMFDR351.	59
EXCHANGE RATE IN \$CAN PER UNIT OF \$US		REXCAN	
CPTL ACCT - STOCK OF FV & MUN SECURITIES HELD BY NON-RES		TRK.STK.	PRMNSCS
SECURITIES HELD BY NON-RES		TBK.STK.	FEDSECS
EXPORTS CRUDE PETROLEUM - WORLD		TEPETOW	
EXPORTS NATURAL GAS - WORLD		TENGASW	
IMPORTS SERVICES PYMTS - INCOME PYMTS - WORLD		TWNSINCPYW\$	
RDP, COMMUNICATION INDUSTRIES		XCCOM543.	48
RDP, MANUFACTURING, TOTAL		XMF	
RDP, MANUFACTURING DURABLES TOTAL		XMFRD	
RDP, WOOD INDUSTRIES		XMFRD251.	59
RDP, FURNITURE & FIXTURES INDST		XMFRD261.	68
RDP, MOTOR VEHICLE INDST (EX PARTS & ACC)		XMFRD323.	24
RDP, NON METALLIC MINERAL PROD INDST		XMFRD351.	59
RDP, CHEMICAL & CHEMICAL PROD INDST		XMFRD372.	79
RDP, COMMERCIAL SERVICES INDST		XSCVM	
RDP, TRANSPORTATION INDST		XTRSP591.	27
EXCH RATE-WTD RATE OF FARM OP FROM FARM PROD		Y.FARMS	
US - BOND RATE, TOTAL		ZASREXWT	
US - IMPLICIT DEFATOR, PERS CONS EXP, TOTAL		ZUSFRMCS	
US - IMPLICIT DEFATOR, PERS CONS EXP, DUR, FURN&HOLD EQUIP		ZUSPDCE	
US - IMPLICIT DEFATOR, PERS CONS EXP, NONDURABLE GOODS		ZUSPDCEDF	
US - IMPLICIT DEFATOR, PERS CONS EXP, NONDURABLES, FOOD		ZUSPDCEEN	
US - IMPLICIT DEFATOR, PERS CONS EXP, SERVICES		ZUSPDCENF	
US - OUTPUT, PRICE DEFATOR, AGRIC, FORESTRY & FISH		ZUSPDCE	
US - OUTPUT, PRICE DEFATOR, MANUFACTURING		ZUSPXAG	
US - OUTPUT, PRICE DEFATOR, PRIMARY METALS		ZUSPXM	
US - OUTPUT, PRICE DEFATOR, ELECTRICAL PROD		ZUSPXMFD33	
US - OUTPUT, PRICE DEFATOR, FABRICATED METAL PROD		ZUSPXMFD34	
US - OUTPUT, PRICE DEFATOR, ELECTRICAL MACHINERY		ZUSPXMFD36	

VARIABLES EXOGENOUS TO IMPORTS BLOCK

	DUMMY	VARIABLE	-	TRADE	BLOCK	-	AIRCRAFT PURCHASES	
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUUMAIR	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUUMAUTOAGR	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMBSMTL	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMDEWLINE	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMDIRASR	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMDMTSLWAY	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMDNORR	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMDNOSCAR	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMDPIPELINE57	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMD58	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMD600N	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMD65	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMD66	E
	DUMMY	VARIABLE	-	TRADE	BLOCK	-	TUMD67	E

TDUMAIR
TDUMAUTAGR
TDUMBASMTL
TDUMDEWLINE
TDUMIRASR
TDUMIRATLSWAY
TDUMNOFR
TDUMOSCAR
TDUMPIPELINE57
TDUM58
TDUM600N
TDUM65
TDUM66
TDUM67

VARIABLES ENDOGENOUS TO THE IMPORTS BLOCK (BOTH BEHAVIOURAL & IDENTITIES)

IMPORTS ALCOHOLIC BEVERAGES - WORLD	TMALBVW	B	
IMPORTS FRUITS & VEGETABLES - WORLD	TMFUVW	B	
IMPORTS DAIRY MEAT FISH PROD - WORLD	TMDAMEW	B	
IMPORTS RESIDUAL AGRICULTURAL PROD - WORLD	TMAGRESW	B	
IMPORTS AGRICULTURAL PROD - WORLD	TMALBVW + TMFUVW + TMDAMEW + TMAGRESW	B	
IMPORTS NONCOMPETITIVE PROD - WORLD	TMNONCW	B	
IMPORTS OTHER CRUDE MATERIALS - WORLD	TMOCRDMTW	B	
IMPORTS CRUDE MATERIALS - WORLD	TMCRUDEW	B	
IMPORTS PROCESSED WOOD PROD - WORLD	TMWOPRW	B	
IMPORTS IRON & STEEL & ALLOYS - WORLD	TMIRASW	B	
IMPORTS NONFERROUS METALS & ALLOYS - WORLD	TMNOFRW	B	
IMPORTS METALS - WORLD	TMIRASW + TMNOFRW	B	
IMPORTS TEXTILES & MATERIALS - WORLD	TMTEXMW	B	
IMPORTS CHEMICALS & PROD - WORLD	TMCHEMW	B	
IMPORTS MISC PROCESSED GOODS - WORLD	TMCMPCROCW	B	
IMPORTS PROCESSED MATERIALS - WORLD	TMPCROCW	B	
	TMWOPRW + TMMETALW + TMTEXMW + TMCMPCROCW + TMPCROCW	B	
IMPORTS AGRICULTURAL MACHINERY - WORLD	TMMAFAW	B	
IMPORTS INDUSTRIAL MACHINERY - UNITED STATES	TMINMAU	B	
IMPORTS INDUSTRIAL MACHINERY - REST OF WORLD	TMINMAR	B	
IMPORTS INDUSTRIAL MACHINERY - WORLD	TMINMAU + TMINMAR	B	
IMPORTS BUSINESS MACHINERY - WORLD	TMINMAU	B	
IMPORTS MACHINERY - WORLD	TMINMAU + TMINMAR	B	
IMPORTS MOTOR VEHICLES - UNITED STATES	TMMAFAW	B	
IMPORTS MOTOR VEHICLES - REST OF WORLD	TMMAFAW + TMINMAU + TMMAFAW	B	
IMPORTS MOTOR VEHICLES - WORLD	TMMAFAW + TMINMAU + TMMAFAW	B	
IMPORTS MOTOR VEHICLE PARTS - UNITED STATES	TMTRVEHU	B	
IMPORTS MOTOR VEHICLE PARTS - REST OF WORLD	TMTRVEHU + TMTRVEHR	B	
IMPORTS MOTOR VEHICLE PARTS - WORLD	TMTRVEHU + TMTRVEHR	B	
IMPORTS AIRCRAFT & PARTS - WORLD	TMTRVPARTSU	B	
IMPORTS RESIDUAL TRANSPORT EQUIP - WORLD	TMTRVPARTSR	B	
IMPORTS TRANSPORTATION EQUIPMENT - WORLD	TMTRVPARTSU + TMTRVPARTSR	B	
IMPORTS COMMUNICATIONS EQUIP - WORLD	TMTRVPARTSU	B	
IMPORTS MISC EQUIP & TOOLS - WORLD	TMTRVPARTSR	B	
IMPORTS APPAREL & HOUSEHOLD GOODS - WORLD	TMTRVPARTSR	B	
IMPORTS MISC PERSONAL & HOUSEHOLD EQUIP - WORLD	TMTRVPARTSR	B	
IMPORTS MISC MANUFACTURED GOODS - WORLD	TMTRVPARTSR	B	
IMPORTS HIGHLY MANUFACTURED GOODS - WORLD	TMTRVPARTSR	B	
IMPORTS SPECIAL TRANSACTIONS - WORLD	TMTRVPARTSR	B	
IMPORTS TOTAL GOODS - WORLD	TMTRVPARTSR	B	
IMPORTS SERVICE PYMTS - FREIGHT & SHIPPING - WORLD	TMTRVPARTSR	B	
IMPORTS SERVICE PYMTS - TRAVEL - WORLD	TMTRVPARTSR	B	
IMPORTS SERVICE PYMTS - INTEREST & MISC INCOM PYMTS - WORLD	TMTRVPARTSR	B	
IMPORTS SERVICE PYMTS - INCOME PYMTS - WORLD	TMTRVPARTSR	B	
IMPORTS SERVICE PYMTS - OTHER SERVICES - WORLD	TMTRVPARTSR	B	
IMPORTS SERVICE PYMTS - TOTAL (NA CONCEPT) - WORLD	TMTRVPARTSR	B	
IMPORTS GOODS & SERVICES - NA BASIS - WORLD	TMTRVPARTSR	B	
IMPORTS SRV PYMTS - TOTAL, WORLD - (I/O CONCEPT)	TMTRVPARTSR	B	

Equation No.: 530

Name: Imports Alcoholic Beverages -- World

Mnemonic: TMALBVW

Period: 1959-75

ln(TMALBVW)

= - 8.93614
(27.70)

+ 1.73310 ln(CNF20)
(39.93)

- 1.46418 ln(REXCAN(-1))
(4.93)

+ .29796 TDUM69
(5.28)

$\overline{R}^2 = .990$

SEE = .053

D.W. = 2.081

Equation No.: 531

Name: Imports Fruits and Vegetables -- World

Mnemonic: TMFUVEW

Period: 1959-75

TMFUVEW

= + 336.99300
(3.92)

+ .060985 CNF10
(17.71)

+ .012874 (.INV FARM\$ / PF INVAG)
(0.75)

+ sum(i=1,2)b(i) (ZUSPDCENF(-i) * REXCAN(-i) / PFCNF10(-i))

i	b(i)	t(i)
1	-3.48018	(5.10)
2	-1.74009	(5.10)
sum	-5.22026	(5.10)

(1,2,FAR)

$\bar{R}^2 = .954$

SEE = 14.634

D.W. = 1.839

Equation No.: 532

Name: Imports Meat, Fish and Dairy Products -- World

Mnemonic: TMDAMEW

Period: 1957-75

TMDAMEW

```
= - 115.81500
    (1.48)

+   .038091      (.INVFARM$(-1) / PFINVAG(-1))
    (2.48)

+  33.57220      TDUM6970
    (3.25)

+ sum(i=0,2)b(i)  CNF10(-i)

+ sum(i=1,2)c(i)  (ZUSPDCENF(-i) * REXCAN(-i) / PFCNF10(-i))

i      b(i)      t(i)      c(i)      t(i)

0      -.036155   (2.06)
1      +.047072   (7.59)      - .70346   (2.16)
2      +.059123   (4.94)     -1.40693   (2.16)

sum    +.070040   (22.54)    -2.11039   (2.16)

      (2,3,FAR)      (1,2,NEAR)
```

$\overline{R}^2 = .975$

SEE = 12.671

D.W. = 1.419

Equation No.: 533

Name: Imports Residual Agricultural Products -- World

Mnemonic: TMAGRESW

Period: 1958-74

ln(TMAGRESW)

= + .81956
(0.53)

+ 1.20854 ln(CNF10)
(12.37)

+ .000085669 (.INV FARM\$ / PF INVAG)
(1.19)

+ sum(i=0,1)b(i) ln(ZUSPXAG(-i) * REXCAN(-i)
/ PXAGFT1.21+41.7(-i))

i	b(i)	t(i)
0	-.84948	(4.86)
1	-.42474	(4.86)
sum	-1.27422	(4.86)

(1,2,FAR)

$\bar{R}^2 = 0.927$

SEE = .060

D.W. = 1.649

Equation No.: 535

Name: Imports Noncompetitive Products -- World

Mnemonic: TMNONCW

Period: 1955-75

TMNONCW

= + 133.64000
(1.36)

+ .015598 DPOP
(10.75)

- 53.01070 ZOSREXWT(-1)
(0.63)

+ sum(i=0,2)b(i) DURATE(-i)

i	b(i)	t(i)
0	-8.20381	(2.08)
1	-2.85010	(1.95)
2	- .11550	(0.05)

sum -11.16940 (3.12)

(2,3,FAR)

$\bar{R}^2 = .855$

SEE = 13.380

D.W. = 1.902

Equation No.: 538

Name: Imports Other Crude Materials -- World

Mnemonic: TMOCDMTW

Period: 1953-74

TMOCDMTW

= + 576.30100
(6.56)

+ .46111 XMFDR351.59
(5.28)

+ .10056 (.INVMFDR + .INVMFND + .INVOTH)
(3.09)

- 478.91500 (PTM.CA.OCRMTW / PXMFDR351.59)
(4.43)

- 48.55980 TDUMBSMTL
(1.89)

- 52.15180 TDUM58
(1.27)

- 4.95096 DMURATE25.54
(0.57)

$\bar{R}^2 = 0.703$

SEE = 35.991

D.W. = 1.344

Equation No.: 540

Name: Imports Processed Wood Products -- World

Mnemonic: TMWOPRW

Period: 1955-74

TMWOPRW

= + 606.56700
(4.79)
+ .127657 (XMFDR251.59 + XMFDR261.68)
(6.00)
+ .044292 .INVRM
(3.47)
+ sum(i=0,4)b(i) (ZUSPDCEDF(-i) * REXCAN(-i)
/ PFCDH10(-i))

i	b(i)	t(i)
0	- .580470	(2.26)
1	- .991066	(2.88)
2	-1.23179	(4.20)
3	-1.30265	(4.21)
4	-1.20364	(1.75)
sum	-5.30962	(4.84)

(2,5,NEAR)

$\bar{R}^2 = .942$

SEE = 14.172

D.W. = 2.038

Equation No.: 541

Name: Imports Iron and Steel and Alloys -- World

Mnemonic: TMIRASW

Period: 1956-74

TMIRASW

```
= + 381.32000
    (3.11)

+   .077201      XMFR
    (19.15)

+ 137.69300      TDUMPIPELINE57
    (4.35)

- 17.95070      TDUMIRASR
    (1.57)

+ 68.80370      TDUM65
    (2.77)

+ sum(i=0,1)b(i) (ZUSPXMFD33(-i) * REXCAN(-i)
                  / PXMFR291.98(-i))
```

i	b(i)	t(i)
0	-3.77240	(3.58)
1	-1.88620	(3.58)
sum	-5.65860	(3.58)

(1,2,FAR)

$\bar{R}^2 = .975$

SEE = 24.023

D.W. = 1.216

Equation No.: 542

Name: Imports Nonferrous Metals and Alloys -- World

Mnemonic: TMNOFRW

Period: 1954-74

TMNOFRW

= + 74.5090
(2.66)

+ .0360080 XMFDR
(14.04)

+ .0387465 .INVRM
(3.01)

- 1.88190 (ZUSPXMFD33(-1) * REXCAN(-1) / PXMFD291.98(-1))
(4.29)

- 13.7430 TDUMNOFR
(1.61)

$\overline{R}^2 = .973$

SEE = 13.993

D.W. = 1.996

Equation No.: 544

Name: Imports Textiles and Materials -- World

Mnemonic: TMTEXMW

Period: 1956-75

TMTEXMW

= + 318.86500
(5.45)

+ .10020 (CHH30 + CHC10 + CHC20)
(28.62)

- 386.56200 (PTM.CA.TEXMW / PTE.CA.TEXMTW)
(7.86)

- 168.33200 TDUM75
(9.38)

$\bar{R}^2 = .988$

SEE = 14.659

D.W. = 1.578

Equation No.: 545

Name: Imports Chemicals and Products -- World

Mnemonic: TMCHEMW

Period: 1954-74

TMCHEMW

= + 587.17100
(7.58)

+ .86529 XMFND372.79
(25.09)

+ sum(i=0,1)b(i) (PTM.CA.CHEMW(-i) / PTE.CA.CHEMPRW(-i))

+ sum(i=0,2)c(i) .INVRM(-i)

i	b(i)	t(i)	c(i)	t(i)
0	-563.94200	(8.74)	+.037834	(2.36)
1	-281.97000	(8.74)	+.046904	(2.66)
2			+.027209	(1.11)
sum	-845.91200	(8.74)	+.11195	(2.51)
	(1,2,FAR)		(2,3,NEAR)	

$\bar{R}^2 = .990$

SEE = 26.223

D.W. = 1.906

Equation No.: 547

Name: Imports Miscellaneous Processed Goods -- World

Mnemonic: TMMCPROCW

Period: 1955-74

TMMCPROCW

= + 477.80900
(3.07)
+ .036645 XMF
(21.77)
- 94.83870 TDUM600N
(4.99)
+ sum(i=0,1)b(i) (PTM.CA.PROCW(-i) / PXMF(-i))

i	b(i)	t(i)
0	-313.34400	(3.06)
1	-156.67200	(3.06)
sum	-470.01500	(3.06)
	(1,2,FAR)	

$\bar{R}^2 = .969$

SEE = 25.091

D.W. = 1.937

Equation No.: 549

Name: Imports Agricultural Machinery -- World

Mnemonic: TMMAFAW

Period: 1958-75

TMMAFAW

= + 862.49700
(4.37)

+ .36466 IAGFTM
(6.57)

- 919.47900 (PTM.CA.MAFAW / PTE.CA.MAFAW)
(4.79)

+ sum(i=0,2)b(i) (Y.FARM\$(-i) / CPI(-i))

i	b(i)	t(i)
0	+.052144	(3.61)
1	+.053287	(3.51)
2	+.003429	(0.22)
sum	+.10886	(3.11)

(2,3,NEAR)

$\bar{R}^2 = .976$

SEE = 23.646

D.W. = 2.412

Equation No.: 2899

Name: Imports Industrial Machinery -- United States

Mnemonic: TMINMAU

Period: 1954-75

TMINMAU

```
= + 1726.87000
    (3.54)

+   .24102      (IBNAM - IAGFTM)
    (12.38)

+   .15688      .INVMFDR
    (4.15)

+   60.13470    TDUMDEWLINE
    (1.77)

+ sum(i=2,4)b(i) (PTM.CA.INMAW(-i) / (.45 * PTE.CA.ELCMEW(-i)
    + .55 * PTE.CA.NELMEW(-i)))
```

i	b(i)	t(i)
2	- 238.99100	(0.62)
3	- 589.08100	(2.50)
4	-1050.27000	(1.34)

sum -1878.34000 (2.99)

(2,3,NEAR)

$\bar{R}^2 = .984$

SEE = 43.115

D.W. = 1.655

Equation No.: 2900

Name: Imports Industrial Machinery -- Rest of World

Mnemonic: TMINMAR

Period: 1956-75

TMINMAR

= + 349.06100
(1.70)

+ .061991 (IBNAM - IAGFTM)
(10.76)

+ .075691 .INVMFDR(-1)
(2.00)

+ sum(i=1,2)b(i) ZOSREXWT(-i)

i	b(i)	t(i)
1	-118.36200	(1.87)
2	-236.72400	(1.87)
sum	-355.08600	(1.87)
(1,2,NEAR)		

$\overline{R}^2 = .946$ SEE = 28.912 D.W. = 1.333 RHO = .308

Equation No.: 551

Name: Imports Business Machinery -- World

Mnemonic: TMBZMAW

Period: 1955-74

TMBZMAW

= + 59.77350
(1.04)

- 20.53370 TDUM58
(1.17)

+ .039447 XSVC(-1)
(2.00)

+ sum(i=0,1)b(i) (ZUSPXMFD36(-i) * REXCAN(-i)
/ PXMFD331.39(-i))

+ sum(i=1,3)c(i) ISVCMM(-i)

i	b(i)	t(i)	c(i)	t(i)
0	- .66015	(2.90)		
1	-1.32031	(2.90)	+.028635	(0.56)
2			+.15419	(2.58)
3			+.37665	(2.95)
sum	-1.98046	(2.90)	+.55947	(3.10)
	(1,2,NEAR)		(2,3,NEAR)	

$\bar{R}^2 = .991$

SEE = 16.245

D.W. = 1.850

Equation No.: 2901

Name: Imports Motor Vehicles -- United States

Mnemonic: TMMTRVEHU

Period: 1958-75

TMMTRVEHU

= + .075234 CDT11
(5.68)

- 278.01500 TDUM70
(3.16)

- 193.48700 (TWAF5 * PTM.CA.MTRVEHW / PTE.CA.MTVEHW)
(4.35)

+ sum(i=0,3)b(i) (TWAF5(-i) * CDT11(-i))

+ sum(i=0,3)c(i) ((TWAF5(-i) **2) * CDT11(-i))

i	b(i)	t(i)	c(i)	t(i)
0	+.13257	(5.99)	-.016925	(6.43)
1	+.19336	(10.39)	-.020689	(5.64)
2	+.12981	(6.11)	-.011292	(3.17)
3	-.058083	(1.69)	+.011266	(2.72)
sum	+.39765	(5.33)	-.037639	(3.17)
	(2,4,NONE)		(2,4,NEAR)	

$\bar{R}^2 = .997$

SEE = 44.642

D.W. = 1.961

Equation No.: 2902

Name: Imports Motor Vehicles -- Rest of World

Mnemonic: TMMTRVEHR

Period: 1959-75

TMMTRVEHR

= + 314.562
(1.38)

+ .128698 CDT11
(11.07)

+ 116.29300 TDUMOSCAR
(5.32)

- 361.57600 ZOSREXWT(-1)
(1.71)

- 64.73990 TDUM67
(1.78)

$\bar{R}^2 = .943$

SEE = 34.023

D.W. = 2.136

Equation No.: 2903

Name: Imports Motor Vehicle Parts -- United States

Mnemonic: TMMTRVPARTSU

Period: 1958-74

TMMTRVPARTSU

```
= + 1.98160      XMFDR323.24
    (10.32)

+ .95514      CDT20
    (3.25)

+ 160.64300    TDUM66
    (2.00)

+ sum(i=0,1)b(i) ((TWAFT6(-i) **2) * XMFDR323.24(-i))

+ sum(i=0,1)b(i) (PTM.CA.MTRVPRTW(-i) / PTE.CA.MTVPTW(-i))
```

i	b(i)	t(i)	c(i)	t(i)
0	+.0095011	(3.29)	-245.21800	(3.00)
1	+.0047506	(3.29)	-490.43600	(3.00)
sum	+.014252	(3.29)	-735.65400	(3.00)
	(1,2,FAR)		(1,2,NEAR)	

$\bar{R}^2 = .994$ SEE = 73.588 D.W. = 2.185

Equation No.: 2904

Name: Imports Motor Vehicle Parts -- Rest of World

Mnemonic: TMMTRVPARTSR

Period: 1958-75

TMMTRVPARTSR

=	+ 113.13500	
	(2.67)	
	+ .099332	CDT20
	(2.67)	
	+ .0081769	(TWAFT5 * CDT20)
	(2.57)	
	- 153.35200	ZOSREXWT(-1)
	(2.68)	
	- 25.86530	TDUM6768
	(3.66)	

$\bar{R}^2 = .979$

SEE = 6.912

D.W. = 2.475

Equation No.: 555

Name: Imports Aircraft and Parts -- World

Mnemonic: TMAIRCW

Period: 1956-74

TMAIRCW

= - 230.79100
(4.94)

+ 163.96500 TDUMAIR
(4.51)

+ .033674 XTRSP501.27
(2.45)

+ sum(i=0,3)b(i) (.24 * ITRSPM501.27(-i))

i	b(i)	t(i)
0	+1.79545	(4.80)
1	+1.00448	(5.17)
2	+ .44158	(1.86)
3	+ .10675	(0.54)

sum +3.34826 (5.17)

(2,4,FAR)

$\bar{R}^2 = .897$

SEE = 43.045

D.W. = 1.372

Equation No.: 556

Name: Imports Residual Transport Equipment -- World

Mnemonic: TMRETRW

Period: 1959-75

TMRETRW

=	+	285.78900	
		(4.22)	
	+	.056072	CDE10
		(31.02)	
	+	17.06930	TDUMMTLSWAY
		(1.74)	
	-	2.19885	(ZUSPDCE * REXCAN / PFCPIP)
		(3.78)	
	-	10.35630	DURATE
		(3.61)	

$\bar{R}^2 = .985$

SEE = 7.286

D.W. = 2.813

Equation No.: 558

Name: Imports Communications Equipment -- World

Mnemonic: TMTALKW

Period: 1954-74

TMTALKW

= + 431.42900
(5.01)

+ .10789 XCOMM543.48
(2.13)

+ .16952 CDE10
(4.47)

+ sum(i=0,2)b(i) (ZUSPXMFD36(-i) * REXCAN(-i)
/ PXMFDR331.39(-i))

i	b(i)	t(i)
0	-1.22003	(1.33)
1	-1.89200	(3.25)
2	-2.01589	(1.48)
sum	-5.12792	(5.12)

(2,3,NEAR)

$\bar{R}^2 = .988$

SEE = 25.208

D.W. = 1.543

Equation No.: 559

Name: Imports Miscellaneous Equipment and Tools -- World

Mnemonic: TMMEQW

Period: 1959-74

TMMEQW

= + 498.31900
(1.76)

+ .10923 XMFDR
(19.83)

+ 81.04790 TDUM6768
(2.50)

+ sum(i=1,2)b(i) (ZUSPXMFD34(-i) * REXCAN(-i)
/ PXMFD301.09(-i))

i	b(i)	t(i)
1	-3.85981	(1.83)
2	-1.92990	(1.83)
sum	-5.78972	(1.83)
(1,2,FAR)		

$\bar{R}^2 = .974$

SEE = 39.245

D.W. = 2.027

Equation No.: 560

Name: Imports Apparel and Household Goods -- World

Mnemonic: TMAPHTW

Period: 1958-75

TMAPHTW

= + 372.83500
(3.10)

+ .091900 CH
(18.63)

- 114.08600 TDUM73
(5.25)

+ sum(i=0,2)b(i) (PTM.CA.APHTW(-i) / PTE.CA.RBLTHCLW(-i))

i	b(i)	t(i)
0	-231.28100	(2.40)
1	-254.61200	(5.17)
2	-177.51900	(2.63)
sum	-663.41200	(6.82)

(2,3,FAR)

$\overline{R}^2 = .986$

SEE = 19.880

D.W. = 1.618

Equation No.: 561

Name: Imports Miscellaneous Personal and Household Equipment -- World

Mnemonic: TMMPERW

Period: 1959-75

TMMPERW

```
= + 3278.37000
    (5.59)

+   .066601      (CH + CN)
    (23.04)

+   .042650      .INVMFND
    (0.72)

-   62.35210      DURATE
    (4.10)

+   95.57700      TDUM72
    (3.22)

+ sum(i=0,4)b(i)  (ZUSPDCEN(-i) * REXCAN(-i)
                  / PFCH(-i))
```

i	b(i)	t(i)
0	-3.95345	(4.30)
1	-6.93674	(5.16)
2	-8.94986	(6.43)
3	-9.99281	(6.79)
4	-10.06560	(4.37)
sum	-39.89840	(6.99)

(2,5,NEAR)

$\bar{R}^2 = .989$

SEE = 26.259

D.W. = 2.046

Equation No.: 562

Name: Imports Miscellaneous Manufactured Goods -- World

Mnemonic: TMMCMFRW

Period: 1956-74

TMMCMFRW

```
= + 1441.83000
    (8.37)

+   .081630      (CH + CN)
    (20.59)

-  146.49300      TDUM67
    (3.54)

+  114.44000      TDUM6970
    (3.51)

+ sum(i=0,2)b(i)  (ZUSPXM(-i) * REXCAN(-i) / PXM(-i))

i      b(i)      t(i)

0      -1.12572   (0.43)
1      -7.12216   (5.25)
2      -17.98930  (4.26)

sum -26.23720    (13.96)

(2,3,NEAR)
```

$\bar{R}^2 = .987$

SEE = 38.824

D.W. = 1.684

Equation No.: 564

Name: Imports Special Transactions -- World

Mnemonic: TMSPECW

Period: 1958-75

TMSPECW

= + 81.77720
(4.90)

+ .0061696 (TMGW - TMSPECW)
(5.36)

+ 143.65900 TDUMAUTOAGR
(10.12)

$\bar{R}^2 = .868$

SEE = 26.371

D.W. = 2.077

Equation No.: 566

Name: Imports Service Payments - Freight and Shipping -- World

Mnemonic: TMSFRSHW

Period: 1957-75

TMSFRSHW

=	+ 2603.00000	
	(10.20)	
	+ .010397	(TMGW + TEPETOW + TENGASW)
	(3.65)	
	- 1525.28000	(PTM.CA.FRSHW / PTE.CA.FRSHW)
	(7.16)	
	- 43.20910	TDUM58
	(1.18)	
	- 81.22340	TDUM72
	(2.20)	
	+ 160.93100	TDUM74
	(4.11)	

$\bar{R}^2 = .973$

SEE = 32.256

D.W. = 1.045

Equation No.: 567

Name: Imports Service Payments - Travel -- World

Mnemonic: TMSTRAVELW

Period: 1950-75

TMSTRAVELW

= + 79.00680
(1.30)

+ 1.11682 CSA11
(130.53)

- .87949 (ZUSPDCE * REXCAN / PFC)
(1.37)

$\bar{R}^2 = .999$

SEE = 15.896

D.W. = 1.688

Equation No.: 1581

Name: Imports Service Payments - Income Payments, Excluding
Dividends -- World

Mnemonic: TMSIN+MIPYW

Period: 1959-75

TMSIN+MIPYW * PTM.CA.INPYW

= - 379.90300
(4.80)

+ sum(i=0,2)b(i) ((.25 * FRATE.GBOND.10Y(-i)
+ .75 * ZUSFRMCS(-i))
* (TBK.STK.PRMNSC\$(-1)
+ TBK.STK.FEDSEC\$(-1)))

+ sum(i=0,1)c(i) REXCAN(-i)

+ sum(i=0,2)d(i) (FASSETS.LI(-i) * FRATE.FCPAPER3M(-i))

i	b(i)	t(i)	c(i)	t(i)	d(i)	t(i)
0	+.00054052	(0.27)	+282.88800	(5.37)	+.0021584	(10.09)
1	+.0025033	(1.53)	+141.44400	(5.37)	+.0022667	(9.35)
2	+.010998	(9.87)			+.00032502	(1.30)
sum	+.014041	(17.91)	+424.33200	(5.37)	+.0047502	(8.11)
	(2,3,NONE)		(1,2,FAR)		(2,3,NEAR)	

$\bar{R}^2 = 1.000$

SEE = 11.479

D.W. = 2.077

Equation No.: 569

Name: Imports Service Payments -- Other Services -- World

Mnemonic: TMSOTHSERW

Period: 1957-75

ln(TMSOTHSERW)

$$\begin{aligned}
 = & - 9.41711 \\
 & (3.00) \\
 & + .78754 \quad \ln(\text{GEF.CGS.D}) \\
 & (3.89) \\
 & + .081460 \quad \text{TDUM67} \\
 & (2.38) \\
 & + .16621 \quad \text{TDUM6970} \\
 & (6.57) \\
 & + \text{sum}(i=0,1)b(i) \quad \ln(\text{GNE}(-i)) \\
 & + \text{sum}(i=0,1)c(i) \quad \ln(\text{ZUSPDCES}(-i) * \text{REXCAN}(-i) / \text{PFCS}(-i))
 \end{aligned}$$

i	b(i)	t(i)	c(i)	t(i)
0	+.96610	(12.84)	-.42310	(8.42)
1	+.48305	(12.84)	-.84620	(8.42)
sum	+1.44915	(12.84)	-1.26930	(8.42)
	(1,2,FAR)		(1,2,NEAR)	

$\bar{R}^2 = .991$

SEE = .0314

D.W. = 1.813

GNE AND FINAL DOMESTIC DEMAND

The detailed discussion of the expenditure side of the model is now complete. There are a few remaining identities (those associated with gross capital formation, GNE and final domestic demand) that should be mentioned before we move to a discussion of production at the industry level. The simple National Accounts identity (consumption + investment + government purchases of goods and services + exports - imports) has been discussed in detail. The detailed components needed to build this identity have been outlined individually. In a sense the discussion of the expenditure side of the model has brought us full circle. We now return to the aggregate GNE identity, but with an indication of the forces that influence each sub-aggregate.

In preparing for a detailed discussion of final demand conversion we reorganize the GNE expenditure identity to conform to the accounting framework required for final demand conversion. In total, 150 separate expenditure items are needed. Excluded from final demand conversion are the adjusting entries common to the expenditure side of the National Accounts, the residual error of estimate, and income flows to and from abroad (items in the trade services accounts). The latter are excluded because of

definitional differences between Gross National Expenditure and Gross Domestic Product in the system of National Accounts. The residual error of estimate and adjusting entries are excluded by choice.

Certain aggregations occur before the disaggregated GNE concepts are passed to the input-output block. Table 2 contains the expenditure categories which influence production. Within consumption, there are 4 categories which are derived from identities: (1) spending on medical care, (2) spending on hospital care, (3) spending on new and used automobiles and (4) net expenditures abroad. We have indicated previously that medical and hospital spending are derived stochastically and the dependent variable includes not only private but also public spending. The private portion finds its way to the production side of the model through consumption: the public portion finds its way to production through government spending on goods and services. The identities associated with medical care and hospital care are in fact the split functions mentioned in the text on consumption and government spending. For new and used automobiles, aggregation occurs because final demand conversion allows for only one column in the Bridge matrix. This is also the case for net expenditures abroad.

For investment in machinery and equipment, the detail associated with mining is aggregated before conversion. This is also the case for machinery and equipment investment in primary metals, transport equipment, commercial services and government. These aggregations occur from a more detailed level to maintain consistency with the expenditure categories associated with the 1971 input-output table.

Because the construction industry appears as a single item in the input-output table associated with CANDIDE Model 2.0, the commodity composition of each spending category does not vary across purchasing industries except for two cases. Accordingly, the expenditure side accounts are aggregated before they are passed to the input-output block. The two exceptions are real estate commissions and mining.

For inventories, we indicated previously that a preconversion step maps inventories by holding industry to a raw material-finished goods accounting framework.

Within the government block, the GNE expenditure concepts associated with the government reaction functions are re-aggregated to 12 value-added and other goods and services concepts. As a result the final demand categories

associated with government reappear as value-added and other goods and services concepts.

Within the foreign trade block there are certain aggregations which occur. In the export block, pulp, newsprint, motor vehicles, motor vehicle parts, and income receipts are determined separately for the United States and the rest of the world. These must be aggregated before conversion. Furthermore, income receipts are excluded from the conversion and as a result total service receipts (I/O) are reduced by the amount of this item.

For imports, industrial machinery, motor vehicles, and motor vehicle parts have all been estimated at the U.S., rest of world level. Aggregation must occur before final demand conversion proceeds. Income payments associated with service payments must also be excluded before final demand conversion can proceed.

This completes our discussion of the expenditure side of CANDIDE Model 2.0. The design of the final demand side of CANDIDE Model 2.0 is influenced by two separate forces. The first is related to the aggregation levels and specifications which are most appropriate in explaining movements in the sub-aggregates of consumption, investment, government spending, imports, and exports. For consumption,

the detailed sub-aggregates are broken down by commodity. For investment in machinery and equipment and construction, the detail is broken down by purchasing industry. For inventories, the detail is broken by holding industry, but later converted to a raw materials-finished goods framework. For business residential construction, the detail is broken down by type of construction. For government spending on goods and services, the detail is broken down by level of government. For the capital account associated with government spending, the detail is also broken down by the level of government. For exports, the detail is broken down by categories which broadly conform to the industry aggregation levels associated with the production side of the model. Imports are broken down by commodity groupings which in many cases approximate the Table 1 classifications.

This breakdown of the GNE identity must also conform to the expenditure vector required in final demand conversion. To accomplish this mapping, certain aggregations are performed. These include adding up sub-aggregates for consumption, exports, imports, and investment. It also includes more sophisticated mappings such as those associated with inventories and government purchases of goods and services. As a result, the

expenditure vector associated with the GNE concept and the GNE sub-aggregates fed to the I/O submodel are identical except for 1) sub-aggregations, 2) the mapping of sub-aggregates from one accounting framework to another and 3) the exclusion of items for reasons of choice or for reasons of definitional difference between GNE and GDP.

TABLE 2.0

GNE EXPENDITURE VECTOR USED IN OUTPUT CONVERSION

CONSUMPTION

TYPE	ITEM
B	Food and Non-alcoholic Beverages
B	Alcoholic Beverages
B	Tobacco
B	Men's and Boys' Clothing
B	Women's, Girls' and Infants' Wear
B	Footwear and Repair
B	Gross Imputed Rent
B	Gross Rent Paid
B	Other Lodging
B	Electricity
B	Gas
B	Other Fuels
B	Furniture and Carpets
B	Household Appliances
B	Semi-durable Household Furnishings
B	Non-durable Household Supplies
B	Laundry and Dry Cleaning
B	Domestic Services
B	Other Household Services
I	Medical Care
I	Hospital Care and the like I/O
B	Other Medicare Expenses
B	Drugs and Sundries
I	New and Used Net Automobiles
B	Repair and Parts
B	Gasoline, Oil and Grease
B	Other Auto Related Services
B	Purchased Transportation
B	Communications
B	Recreation, Sport and Camp Equipment
B	Books, Newspapers and Magazines
B	Recreational Services
B	Education and Cultural Services
B	Jewellery, Watches and Repairs
B	Toilet Articles and Cosmetics
B	Personal Care
B	Expenditure on Restaurants and Hotels
B	Financial Legal and Other Services
B	Op. Expenditure of Non-profit Organizations
I	Net Expenditure Abroad
FIXED INVESTMENT, MACHINERY & EQUIPMENT	
B	Agric., Fish and Trap Industries, Mach & Equip.
B	Forestry
I	Mining Total

TYPE	ITEM
B	Food and Beverages
B	Tobacco Products
B	Rubber and Plastic Products
B	Leather
B	Textiles
B	Knitting and Clothing
B	Wood
B	Furniture and Fixtures
B	Paper and Allied
B	Print, Pub and Allied
I	Primary Metal
B	Metal Fabricating
B	Machinery (Ex Elec Mach)
I	Transport Equipment
B	Electrical Products
B	Non Metal Mining Products
B	Petroleum and Coal Products
B	Chemical and Chemical Products
B	Miscellaneous Manufacturing, Building
B	Inv Construction Industries, Mach and Equip.
B	Utilities
B	Transportation
B	Communication
B	Wholesale and Retail Trade
B	Fin, Ins and Real Estate
I	Services, Total, I/O
B	College and University Education
B	Sales of Used Assets
I	Govt. Investment Machinery and Equipment

FIXED INVESTMENT, CONSTRUCTION

I	Mining Total, Building and Engineering
I	Total (Res and NonRes), Real estate Comm, I/O
I	Bus Invst, Tot (Excl. Real Estate Comm and Mining), I/O

INVENTORY

I	Inventory change, raw materials total
I	Inventory change, finished goods total

GOVERNMENT EXPENDITURES

I	Hospital Current Goods & Services I/O value added
I	Hospital Current Goods & Services I/O other
I	Pri. & Sec. Educ. Current Gds & Srvs. I/O value added
I	Pri. & Sec. Educ. Current Gds & Srvs. I/O other
I	Fed. Defence Current Gds & Srvs. I/O value added
I	Fed. Defence Current Gds & Srvs. I/O other
I	Fed. Nondefence Current Gds & Srvs. I/O value added
I	Fed. Nondefence Current Gds & Srvs. I/O other
I	Mun & Loc Current Gds & Srvs I/O value added
I	Mun & Loc Current Gds & Srvs I/O other

TYPE	ITEM
I	Prov. Current Gds & Srv I/O value added
I	Prov. Current Gds & Srv I/O other

TRADE (EXPORTS)

E	Total Grains
B	Total Other Farm
B	Forestry
E	Uranium
B	Total Other Base Metals
E	Coal
E	Crude Petroleum
E	Natural Gas
B	Total Nonmetallic Minerals
B	Alcoholic Beverages and Tobacco
B	Total Other Foods
B	Total Rubber, Leather and Clothing
B	Textiles
B	Wood and Lumber
B	Furniture
I	Pulp
I	Newsprint
B	Other Paper and Printing Products
B	Total Iron and Steel
B	Total Nonferrous Metals
B	Fabricated Metal Products
B	Agricultural Machinery
B	Other Nonelectrical Machinery
I	Motor Vehicles
I	Motor Vehicle Parts
B	Other Transportation Equipment
B	Electrical Machinery and Equipment
E	Stone, Clay and Glass Products
E	Petroleum and Coal Products
B	Chemicals and Chemical Products
E	Electrical Power
B	Miscellaneous Manufactured Products
I	Total Service Receipts, I/O Concept

TRADE (IMPORTS)

B	Alcoholic Beverages
B	Fruits and Vegetables
B	Dairy, Meat and Fish Products
B	Residual Agricultural Products
B	Noncompetitive Products
E	Coal
E	Crude Petroleum
E	Other Fuels and Products
B	Other Crude Materials
B	Agricultural Machinery

TYPE	ITEM
I	Industrial Machinery
B	Business Machinery
I	Motor Vehicles
I	Motor Vehicle Parts
B	Processed Wood Products
B	Textiles and Materials
B	Chemical and Chemical Products
B	Iron and Steel and Alloys
B	Nonferrous Metals and Alloys
B	Miscellaneous Processed Goods
B	Aircraft and Parts
B	Residual Transport Equipment
B	Communications Equipment
B	Miscellaneous Equipment and Tools
B	Apparel and Household Goods
B	Miscellaneous Personal and Household Equipment
B	Miscellaneous Manufactured Goods
I	Service Payments, I/O Concept

VARIABLES DETERMINED OUTSIDE THE GNE AND FINAL DOMESTIC DEMAND BLOCK

INVENTORY CHANGE - TOTAL ECONOMY
CONSUMER EXPENDITURE - TOTAL
GOVT EXPND - CURNT GDS & SRVS, TOTAL
GOVT EXPND - INVST TOTAL CAPITAL FORMATION
INV BUS NONRES CONST - NAT.ACCTS.
INV BUS MACH & EQUIP - NAT.ACCTS.
RESID CONST INVST - BUSINESS, TOTAL NAT.ACCTS.
EXPORTS TOTAL GDS & SRVS - NA BASIS - WORLD
IMPORTS GDS & SRVS - NA BASIS - WORLD

.INV
C
GE.CGS
GE.INV.CAPF
IBNACO
IBNAM
RCINAB
TEG+SNAW
TMG+SNAW

VARIABLES EXOGENOUS TO THE GNE AND FINAL DOMESTIC DEMAND BLOCK

FINAL DOMESTIC DEMAND ADJUSTMENT
GROSS FIXED CAPITAL FORMATION ADJUSTMENT
GNE ADJUSTMENT
INV BUSINESS - ADJUSTMENT
RESIDUAL ERROR OF ESTIMATE

FDADJ
GFCADJ
GNEADJ
IBNAADJ
REE

E
E
E
E
E

VARIABLES ENDOGENOUS TO THE GNE AND FINAL DOMESTIC DEMAND BLOCK (IDENTITIES)

GROSS FIXED CAPITAL FORMATION - BUSINESS
GROSS FIXED CAPITAL FORMATION - TOTAL
GROSS NATIONAL EXPENDITURE AT MARKET PRICES
FINAL DOMESTIC DEMAND

GFC.B
GFC
GNE
FDD

= RCINAB + IBNACO + IBNAM + IBNAADJ
= GE.INV.CAPF + GFC.B + GFCADJ
= C + GE.CGS + GFC + .INV + TEG+SNAB - TMG+SNAB - REE
- GNEADJ
= GNE + TMG+SNAB + FDDADJ + GNEADJ + REE - TEG+SNAB
- .INV

ANOTHER PLASTITAB PRODUCT BY LOWE-MARTIN COMPANY INC.

792181

PRODUCTION OR OUTPUT AT THE INDUSTRY LEVEL

We have indicated that GNE within CANDIDE Model 2.0 can be viewed from the expenditure, product, or income side of the system of National Accounts. We have discussed in detail the expenditure side of the model. The expenditure side of the model influences GNE directly (National Accounts concept) and also influences production levels through final demand conversion. In this section we deal with the details of final demand conversion.

The data inputs to final demand conversion are a set of 150 disaggregated final demand indicators for consumption, investment, inventories, government spending, exports and imports. There are also three matrices and three vectors associated with final demand conversion. We discuss these as they appear in the final demand conversion process. First, the GNE expenditure vector (National Accounts) is adjusted to conform definitionally (in 1971) to the input-output expenditure vector. There are conceptual differences in National Accounts versus input-output expenditure concepts. These are primarily due to the treatment of own account construction. Once these adjustments have been made, the commodity composition of final demand is determined by using the 1971 Bridge matrix aggregated to the 48 sector level (Table 1). In total,

there are 150 final demand categories (Table 2) associated with expenditure which are applied to 150 reconciliation ratios which then are passed through the Bridge matrix (48 x 150). From this calculation flows the commodity composition of final demand.

In CANDIDE Model 2.0, the number of commodities and the number of industries are identical. Commodities conform to the same categories outlined in Table 1. Once the commodity composition of final demand is determined we derive, through appropriate use of the Use Matrix (the commodity composition of an industry's input) and the Make Matrix (the commodity composition of an industry's output), estimates of industry production levels which are consistent with the commodity composition of final demand. These production levels, however, are gross output and not value-added concepts. They contain both intermediate inputs and original factor contributions. Using the ratio of value added to gross output (in 1971) we determine an estimate of value added (the original factor contribution to an industry's total input). This value-added estimate however will not necessarily agree with the Industry Product Division estimates of Real Domestic Product because of conceptual differences associated with own account construction. We apply a set of reconciliation ratios to translate input-output value-added concepts to Industry

Product Division Real Domestic Product concepts. These estimates of Real Domestic Product indicate the original factor contribution required to satisfy a given level of GNE expenditure.

If this procedure is applied to every year in the sample period, estimates of Real Domestic Product result assuming all coefficients associated with final demand conversion have not varied from 1971 values (the three matrices and three vectors). We call the data points resulting from this calculation pseudo Real Domestic Product. For the first 44 industries, we then correlate these estimates of pseudo Real Domestic Product with observed data from the Industry Product Division to provide an estimate of observed Real Domestic Product.

In summary, output conversion involves several operations: (1), certain aggregations occur to the GNE expenditure vector; (2), adjustments are made to the expenditure vector to insure consistency between Input-Output concepts and National Accounts concepts; (3), using the Bridge matrix the commodity composition of expenditure is determined; (4), production levels associated with this commodity composition are determined using the Make and Use Matrices aggregated to the 48 sector level for both industries and commodities; (5), production levels

determined at this stage are then translated to Input-Output value-added concepts using a constant ratio technique; (6) adjustments are then made to the Input-Output value-added estimates to insure conceptual consistency with Industry Product Division estimates of Real Domestic Product; (7), these pseudo RDP estimates are derived for the entire sample period assuming all coefficients associated with final demand conversion do not vary from their 1971 level; (8), the resulting pseudo Real Domestic Product variables are correlated with Real Domestic Product data from the Industry Product Division to produce estimates of Real Domestic Product by industry.

In developing the Bridge matrix which determines the commodity composition of expenditure, the Use Matrix which determines the commodity composition of an industry's inputs, and the Make Matrix which determines the commodity composition of an industry's outputs, we treat the noncommercial sector differently, in an accounting sense, than Statistics Canada. Rather than carry the noncommercial sector, which has no intermediate inputs, but only value-added inputs, in the fourth quadrant with direct purchases from the value-added row, we augment both the Make, the Use and the Bridge matrix and include the noncommercial sector (including the government sector) as additional "activities". These additional "activities" have the

following accounting anomalies. The only inputs are original factor inputs and the only deliveries are to expenditure categories in the final demand Bridge matrix. This reorganization of Statistics Canada input-output tables is implemented in order to simplify the process by which final demand conversion takes place within the context of CANDIDE Model 2.0. One should remember that it is only an accounting reorganization of the way Statistics Canada publishes input-output tables.

There are some additional caveats which should be indicated. In addition to the commercial and noncommercial sectors associated with the 1971 input-output table of Statistics Canada, there are three additional rows (46, 47, 48) which have been treated in a way similar to the noncommercial sector. These rows are associated with commodity indirect taxes, noncommodity indirect taxes, and subsidies. These three "activities" have been set up as if they were "dummy" industries. The coefficients in the Use Matrix and the Bridge Matrix associated with these three rows are the implied tax and subsidy rates for year 1971. Assuming these tax or subsidy rates have not changed since 1971, the time series which results from the calculation suggested previously indicate the real value of subsidies, commodity indirect taxes, and noncommodity indirect taxes.

These calculations are important. In the sector price block, these indicators are used as the denominator in an identity which determines an index of commodity tax rates, an index of noncommodity tax rates, and an index of subsidy rates. These indicators play a role in final demand price conversion.

It would be instructive to indicate where the production estimates that are generated from final demand conversion influence the system. The investment functions in CANDIDE Model 2.0 are all influenced by industry specific production levels. The manhour demand equations in the model have as primary inputs, production levels. The inventory equations on the demand side have as important right hand side variables, industry specific output levels. The sector price equations, in as much as they depend upon productivity, include output as an important explanatory variable. The import equations have output variables influencing them directly. In a sense, the production side of the model is another way of looking at the expenditure side of the model. The sum of industry outputs exclusive of indirect taxes, the residual error of estimate, and income payments to and from abroad add to the expenditure side. Although discrepancies exist in the sample period between expenditure and product, no attempt is made to correct for these differences either within the sample period

or outside the sample period. In converting expenditures to production, we only move from one set of accounts to another.

CONSUMPTION:

FOOD & NON-ALCOHOLIC BEVERAGES	CNF10	FD(001)
ALCOHOLIC BEVERAGES	CNF20	FD(002)
TOBACCO	CNF30	FD(003)
MEN'S & BOYS' CLOTHING	CHC10	FD(004)
WOMEN'S GIRLS' & INFANTS' WEAR	CHC20	FD(005)
FOOTWEAR AND REPAIR	CHC30	FD(006)
GROSS IMPUTED RENT	CSE10	FD(007)
GROSS RENT PAID	CSE20	FD(008)
OTHER LODGING	CSE30	FD(009)
ELECTRICITY	CNR40	FD(010)
GAS	CNR50	FD(011)
OTHER FUELS	CNR60	FD(012)
FURNITURE AND CARPETS	CDH10	FD(013)
HOUSEHOLD APPLIANCES	CDH20	FD(014)
SEMI-DURABLE HOUSEHOLD FURNISHINGS	CHH30	FD(015)
NON-DURABLE HOUSEHOLD SUPPLIES	CHH40	FD(016)
LAUNDRY AND DRY CLEANING	CSH50	FD(017)
DOMESTIC SERVICES	CSH60	FD(018)
OTHER HOUSEHOLD SERVICES	CSH70	FD(019)
MEDICAL CARE	CSM10	FD(020)
HOSPITAL CARE AND THE LIKE I/O	CSM20.I0	FD(021)
OTHER MEDICARE EXPENSES	CSM30	FD(022)
DRUGS AND SUNDRIES	CNM40	FD(023)
NEW AND USED NET AUTOMOBILES	CDT10	FD(024)
REPAIR AND PARTS	CDT20	FD(025)
GASOLINE OIL AND GREASE	CNT30	FD(026)
OTHER AUTO RELATED SERVICES	CST40	FD(027)
PURCHASED TRANSPORTATION	CST50	FD(028)
COMMUNICATIONS	CST60	FD(029)
RECREATION SPORT AND CAMP EQUIPMENT	CDE10	FD(030)
BOOKS NEWSPAPERS AND MAGAZINES	CSE20	FD(031)
RECREATIONAL SERVICES	CSE30	FD(032)
EDUCATION AND CULTURAL SERVICES	CSE40	FD(033)
JEWELLERY WATCHES AND REPAIRS	CHP10	FD(034)
TOILET ARTICLES AND COSMETICS	CNP20	FD(035)
PERSONAL CARE	CSE30	FD(036)
EXPENDITURE ON RESTAURANTS AND HOTELS	CSE40	FD(037)
FINANCIAL LEGAL AND OTHER SERVICES	CSE50	FD(038)
OP. EXPENDITURE OF NON-PROFIT ORGANIZATIONS	CSE60	FD(039)
NET EXPENDITURE ABROAD	CSA10	FD(040)

FIXED INVESTMENT, MACHINERY & EQUIPMENT:

INV. AGRICULTURE FISH & TRAPPING INDUSTRIES, MACH & EQUIP	IAGFTM	FD(041)
FORESTRY	IFSTYM31.9	FD(042)
MINING TOTAL	IMIM	FD(043)
FOOD & BEVERAGES	IMFNDM101.9	FD(044)
TOBACCO PRODUCTS	IMFNDM151.3	FD(045)
RUBBER & PLASTIC PRODUCTS	IMFNDM162.5	FD(046)
LEATHER	IMFNDM172.9	FD(047)

TEXTILES	IMENDM181.9	FD(048)
KNITTING & CLOTHING	IMENDM231.49	FD(049)
WOOD	IMEDM251.9	FD(050)
FURNITURE & FIXTURES	IMEDM261.8	FD(051)
PAPER & ALLIED	IMENDM271.4	FD(052)
PRINT, PUBLISHING & ALLIED PAPER	IMENDM286.9	FD(053)
PRIMARY METAL	IMEDM291.8	FD(054)
METAL FABRICATING	IMEDM301.9	FD(055)
MACHINERY (EX ELEC MACH)	IMEDM311.8	FD(056)
TRANSPORT EQUIPMENT	IMEDM321.9	FD(057)
ELECTRICAL PRODUCTS	IMEDM331.9	FD(058)
NON METAL MINING PRODUCTS	IMEDM351.9	FD(059)
PETROLEUM & COAL PRODUCTS	IMENDM365.9	FD(060)
CHEMICAL & CHEMICAL PRODUCTS	IMENDM372.9	FD(061)
MISCELLANEOUS MANUFACTURING, BUILDING	IMENDM391.9	FD(062)
INV. CONSTRUCTION INDUSTRIES, MACH & EQUIP	ICNSTM	FD(063)
UTILITIES	IUTILM572.9	FD(064)
TRANSPORTATION	ITRSPM501.27	FD(065)
COMMUNICATION	ICOMMM543.8	FD(066)
WHOLESALE & RETAIL TRADE	ITRADM602.99	FD(067)
FINANCE INSURANCE & REAL ESTATE	IFIREM701.37	FD(068)
SERVICES, TOTAL I/O	IMESV.IO	FD(069)
COLLEGE & UNIVERSITY EDUCATION	ISVHGDM806	FD(070)
SALES OF USED ASSETS	ISUA	FD(071)
GOVT INVESTMENT MACHINERY & EQUIPMENT	GE.INV.ME	FD(072)

FIXED INVESTMENT, CONSTRUCTION:

MINING TOTAL, BUILDING & ENGINEERING
TOTAL (RES & NONRES), REAL ESTATE COMM, I/O
BUS INVT, TOTAL (EXCL REAL ESTATE COMM & MINING) I/O

INVENTORY:

INVENTORY CHANGE, RAW MATERIALS TOTAL
INVENTORY CHANGE, FINISHED GOODS TOTAL

GOVERNMENT EXPENDITURE:

HOSP GOVT EXPND CURRENT GDS & SRVS, I/O VALUE ADDED
HOSP GOVT EXPND CURRENT GDS & SRVS, I/O OTHER
GOVT EXPND CURRENT GDS & SRVS, PRI & SEC EDUC. I/O VALUE ADDED
GOVT EXPND CURRENT GDS & SRVS, PRI & SEC EDUC. I/O OTHER
FED GOVT EXPND CURRENT GDS & SRVS, DEFENCE I/O VALUE ADDED
FED GOVT EXPND CURRENT GDS & SRVS, DEFENCE I/O OTHER
FED GOVT EXPND CURRENT GDS & SRVS, NONDEFENCE I/O VALUE ADDED
FED GOVT EXPND CURRENT GDS & SRVS, NONDEFENCE I/O OTHER
LOCAL GOVT EXPND CURRENT GDS & SRVS, I/O VALUE ADDED
LOCAL GOVT EXPND CURRENT GDS & SRVS, I/O OTHER
PROV GOVT EXPND CURRENT GDS & SRVS, I/O VALUE ADDED
PROV GOVT EXPND CURRENT GDS & SRVS, I/O OTHER

IMIC
IREC.IO
ICO.IO

.INVRM
.INVEG

GEH.IO.VA
GEH.IO.OTH
GEE.IO.VA
GEE.IO.OTH
GEP.IO.DVA
GEP.IO.DOTH
GEF.IO.NDVA
GEF.IO.NDOTH
GEL.IO.VA
GEL.IO.OTH
GEP.IO.OTH

FD(073)
FD(074)
FD(075)

FD(076)
FD(077)

FD(078)
FD(079)
FD(080)
FD(081)
FD(082)
FD(083)
FD(084)
FD(085)
FD(086)
FD(087)
FD(088)
FD(089)

TRADE (EXPORTS) :

TOTAL GRAINS
TOTAL OTHER FARM
FORESTRY
URANIUM
TOTAL OTHER BASE METALS
COAL
CRUDE PETROLEUM
NATURAL GAS
TOTAL NONMETALLIC MINERALS
ALCOHOLIC BEVERAGES & TOBACCO
TOTAL OTHER FOODS
TOTAL RUBBER, LEATHER & CLOTHING
TEXTILES
WOOD & LUMBER
FURNITURE
PULP
NEWSPRINT
OTHER PAPER & PRINTING
TOTAL IRON & STEEL
TOTAL NONFERROUS METALS
FABRICATED METAL PRODUCTS
AGRICULTURAL MACHINERY
OTHER NONELECTRICAL MACHINERY
MOTOR VEHICLES
MOTOR VEHICLE PARTS
OTHER TRANSPORTATION EQUIPMENT
ELECTRICAL MACHINERY & EQUIPMENT
STONE, CLAY & GLASS PRODUCTS
PETROLEUM & COAL PRODUCTS
CHEMICALS & CHEMICAL PRODUCTS
ELECTRICAL POWER
MISCELLANEOUS MANUFACTURED PRODUCTS
TOTAL SERVICE RECEIPTS, I/O CONCEPT

TRADE (IMPORTS):

ALCOHOLIC BEVERAGES
FRUITS & VEGETABLES
DAIRY MEAT FISH PRODUCTS
RESIDUAL AGRICULTURAL PRODUCTS
NONCOMPETITIVE PRODUCTS
COAL
CRUDE PETROLEUM
OTHER FUELS & PRODUCTS
OTHER CRUDE MATERIALS
AGRICULTURAL MACHINERY
INDUSTRIAL MACHINERY
BUSINESS MACHINERY
MOTOR VEHICLES
MOTOR VEHICLE PARTS
PROCESSED WOOD PRODUCTS
TEXTILES & MATERIALS
CHEMICAL & CHEMICAL PRODUCTS
IRON & STEEL & ALLOYS
NONFERROUS METALS AND ALLOYS

TEGRAINS
TEOTHFARW
TEFORESTRY
TEURANW
TEOTHMETALSW
TEOCALW
TEPETOW
TEGASW
TENMETHINW
TEALCOHOBW
TEFOODPRW
TERELTHCLTHW
TEBXTILESW
TEWOLUMBW
TEFURNW
TEPULPW
TENERTW
TEOPAPRW
TEIRASW
TENOFRTW
TEFABRTLM
TEMAFAW
TENECEMEW
TEMTRVEHW
TEMTRVARTSW
TERETRW
TEECHEW
TENMETMINRW
TEFUPTW
TECHEMW
TEELPOW
TEMSFRPRW
TESWP

TNALBVW
TNFUVW
TNDAWEM
TNAGRESW
TNONCOW
TNCOALW
TNPETOW
TNFOTW
TNOCRDMTW
TNMAFAW
TNMINAW
TNBZMAW
TNMT RVEHW
TNMT RVPARTSW
TNWOPRW
TNTEXMW
TNCEHEW
TNIRASW
TNWOFRW

MISCELLANEOUS PROCESSED GOODS
AIRCRAFT & PARTS
RESIDUAL TRANSPORT EQUIPMENT
COMMUNICATIONS EQUIPMENT
MISCELLANEOUS EQUIPMENT & TOOLS
APPAREL & HOUSEHOLD GOODS
MISCELLANEOUS PERSONAL & HOUSEHOLD EQUIPMENT
MISCELLANEOUS MANUFACTURED GOODS
SERVICE PAYMENTS, I/O CONCEPT

TMMCPROCW
TMAIRCW
TMRETRW
TMTALKW
TMMEQTW
TMAPHTW
TMPEPRW
TMMCMFRW
TMSWP

FD(142)
FD(143)
FD(144)
FD(145)
FD(146)
FD(147)
FD(148)
FD(149)
FD(150)

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B(48,48)      THE USE MATRIX
DA(48,48)      THE MAKE MATRIX
EI(48,150)     THE FINAL DEMAND BRIDGE MATRIX
F7ILF(150)     ADJUSTMENT VECTOR: NATIONAL ACCOUNTS TO INPUT - OUTPUT FINAL DEMAND
X7ILF(48)      ADJUSTMENT VECTOR: REAL DOMESTIC PRODUCT TO INPUT - OUTPUT INDUSTRY VALUE ADDED
SB(48)         NET TO GROSS CONVERTOR
FC(48)         FINAL DEMAND COMMODITIES
FD(150)        FINAL DEMAND NATIONAL ACCOUNTS
FDIO(150)      FINAL DEMAND INPUT - OUTPUT
XC(48)        COMMODITY GROSS OUTPUT
XI(48)        INDUSTRY GROSS OUTPUT
Y(48)         REAL DOMESTIC PRODUCT
SB(J)          = SUM(I=1,48) B(I,J), J = 1...48
FDIO(K)        = FD(K) * F7ILF(K), K = 1...150
FC(I)          = SUM(K=1,150) EI(I,K) * FDIO(K), I = 1...48
XC(I)          = SUM(J=1,48) (B(I,J) * XI(J)) + FC(I), I = 1...48
XI(I)          = SUM(J=1,48) DA(I,J) * XC(J), I = 1...48
Y(I)           = XI(I) * (1.0 - SB(I)) / X7ILF(I), I = 1...48

```

REAL DOMESTIC PRODUCT BLOCK

VARIABLES DETERMINED OUTSIDE THE REAL DOMESTIC PRODUCT BLOCK

TOTAL UNIVERSITY ENROLMENT	DUNVENROL
SECTOR DEFLATOR, FORESTRY INDST	PXFTY31.9
SECTOR DEFLATOR, FURNITURE & FIXTURE INDST	PXMFRD261.68
SECTOR DEFLATOR, IRON & STEEL INDST	PXMFRD291.94
SECTOR DEFLATOR, NONFERROUS METAL INDST	PXMFRD295.98
SECTOR DEFLATOR, METAL FABRICATING INDST	PXMFRD301.09
SECTOR DEFLATOR, MACHINERY (EX ELEC MACH) INDST	PXMFRD311.18
SECTOR DEFLATOR, MOTOR VEHICLE PARTS & ACC INDST	PXMFRD325
SECTOR DEFLATOR, ELECTRICAL PRODUCTS INDST	PXMFRD331.39
SECTOR DEFLATOR, TOBACCO PRODUCTS INDST	PXMEND151.53
SECTOR DEFLATOR, RUBBER & PLASTICS PRODUCTS INDST	PXMEND162.65
SECTOR DEFLATOR, LEATHER INDST	PXMEND172.79
SECTOR DEFLATOR, TEXTILE INDST	PXMEND181.89
SECTOR DEFLATOR, KNITTING MILLS & CLOTHING INDST	PXMEND231.49
SECTOR DEFLATOR, PAPER & ALLIED INDST	PXMEND271.74
SECTOR DEFLATOR, PETROLEUM & COAL PRODUCTS INDST	PXMEND365.69
SECTOR DEFLATOR, CHEMICAL & CHEMICAL PRODUCTS INDST	PXMEND372.79
SECTOR DEFLATOR, REAL DOMESTIC PRODUCT, TOTAL ECONOMY	PXRDP
SECTOR DEFLATOR, WHOLESALE & RETAIL TRADE INDST	PXTRAD602.99
EXPORTS TOTAL GRAINS - WORLD	TEGRAINSW
DUMMY VARIABLE - FINAL DEMAND PRICE SECTOR	TIME

VARIABLES EXOGENOUS TO THE REAL DOMESTIC PRODUCT BLOCK (OTHER)

DUMMY VARIABLE - REAL DOMESTIC PRODUCT BLOCK	XDUMBADW	E
DUMMY VARIABLE - REAL DOMESTIC PRODUCT BLOCK	XDUMGOODW	E
DUMMY VARIABLE - REAL DOMESTIC PRODUCT BLOCK	XDUM6170	E
DUMMY VARIABLE - REAL DOMESTIC PRODUCT BLOCK	XDUM6670	E
DUMMY VARIABLE - REAL DOMESTIC PRODUCT BLOCK	XDUM7174	E

VARIABLES EXOGENOUS TO THE REAL DOMESTIC PRODUCT BLOCK (PSEUDO REAL DOMESTIC PRODUCT)

AGRICULTURE, FISHING & TRAPPING	EAGFTYL.21+41.7	Y(01)
FORESTRY	EFSTY31.9	Y(02)
METAL MINING	EMIMM51.9	Y(03)
COAL MINING	EMICL61	Y(04)
CRUDE PET NATURAL GAS, SERVICES INCID TO MINING	EMICP64+96.9	Y(05)
NONMETAL MINING (EXCEPT COAL)	EMINN71.87	Y(06)
FOOD & BEVERAGES	EMFND101.09	Y(07)
TOBACCO PRODUCTS	EMFND151.53	Y(08)
RUBBER AND PLASTIC PRODUCTS	EMFND162.65	Y(09)
LEATHER	EMFND172.79	Y(10)
TEXTILES	EMFND181.89	Y(11)
KNITTING MILLS & CLOTHING	EMFND231.49	Y(12)
WOOD	EMFDR251.59	Y(13)
FURNITURE & FIXTURES	EMFDR261.68	Y(14)
PAPER AND ALLIED	EMFND271.74	Y(15)
PRINTING, PUBLISHING & ALLIED	EMFND286.89	Y(16)
IRON AND STEEL	EMFDR291.94	Y(17)
NONFERROUS METAL	EMFDR295.98	Y(18)
METAL FABRICATING	EMFDR301.09	Y(19)
MACHINERY (EX ELECTRICAL MACHINERY)	EMFDR311.18	Y(20)
MOTOR VEHICLE (EX PARTS & ACCESSORIES)	EMFDR323.24	Y(21)
MOTOR VEHICLE PARTS AND ACCESSORIES	EMFDR325	Y(22)
NONAUTO TRANSPORT EQUIPMENT	EMFDR321+26.9	Y(23)
ELECTRICAL PRODUCTS	EMFDR331.39	Y(24)
NONMETALLIC MINERAL PRODUCTS	EMFDR351.59	Y(25)
PETROLEUM AND COAL PRODUCTS	EMFND365.69	Y(26)
CHEMICAL AND CHEMICAL PRODUCTS	EMFND372.79	Y(27)
MISCELLANEOUS MANUFACTURING	EMFND391.99	Y(28)
CONSTRUCTION	ECNST404.21	Y(29)
TRANSPORTATION	ETRSF501.27	Y(30)
COMMUNICATION	ECOMM543.48	Y(31)
UTILITIES	EUTIL572.79	Y(32)
WHOLESALE AND RETAIL TRADE	ETRAD602.99	Y(33)
OWNER OCCUPIED DWELLINGS	ERENTOOD	Y(34)
FINANCE, INSURANCE, & REAL ESTATE	EFIRE701.37	Y(35)
COMMERCIAL SERVICES	ESVCM	Y(36)
OTHER NONCOMMERCIAL SERVICES	ESVNC	Y(37)
COLLEGE AND UNIVERSITY EDUCATION	ESVHGED806	Y(38)
HOSPITALS	EGHOSPB21	Y(39)
PRIMARY, SECONDARY, AND NONUNIVERSITY POST SECONDARY EDUCATION	EGPSED	Y(40)
PUBLIC ADMINISTRATION, FEDERAL DEFENCE	EGPAFD902	Y(41)
PUBLIC ADMINISTRATION, FEDERAL NONDEFENCE	EGPAFND909	Y(42)
PUBLIC ADMINISTRATION, LOCAL GOVERNMENT	EGPAL951	Y(43)
PUBLIC ADMINISTRATION, PROVINCIAL GOVERNMENT	EGPAP931	Y(44)
NONCOMPETING IMPORTS	EMNC	Y(45)
INDIRECT TAXES, COMMODITIES	EIBTCD	Y(46)
INDIRECT TAXES, NONCOMMODITIES	EIBTNC	Y(47)
SUBSIDIES	ESUB	Y(48)

VARIABLES ENDOGENOUS TO THE REAL DOMESTIC PRODUCT BLOCK (BOTH BEHAVIOURAL & IDENTITIES)

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RD, AGRICULTURAL, FISH & TRAP INDST	XAGFT1.21+41.7	B	
RD, FORESTRY INDST	XFSTY31.9	B	
RD, COAL MINING INDST	XMICL61	B	
RD, CRD. PET, NATL GAS & SRV. INCID TO MIN. INDST	XMICP64+96.9	B	
RD, METAL MINING INDST	XMIMM51.9	B	
RD, NONMETAL MINING (EXCEPT COAL) INDST	XMINM71.87	B	
RD, MINING, TOTAL	XMI	=	XMICL61 + XMICP64+96.9 + XMIMM51.9 + XMINM71.87
RD, WOOD INDUSTRIES	XMEDR251.59	B	
RD, FURNITURE & FIXTURE INDUSTRIES	XMEDR261.68	B	
RD, IRON AND STEEL INDUSTRIES	XMEDR291.94	B	
RD, NONFERROUS METAL INDUSTRIES	XMEDR295.98	B	
RD, PRIMARY METALS INDUSTRIES	XMEDR291.98	=	XMEDR291.94 + XMEDR295.98
RD, METAL FABRICATING INDUSTRIES	XMEDR301.09	B	
RD, MACHINERY (EX ELEC MACH) INDST	XMEDR311.18	B	
RD, NONAUTO TRANSPORT EQUIPMENT INDST	XMEDR321+26.9	B	
RD, MOTOR VEHICLE INDUSTRIES (EX PARTS & ACC)	XMEDR323.24	B	
RD, VEHICLE PARTS & ACCESSORIES INDST	XMEDR325	=	XMEDR321+26.9 + XMEDR323.24 + XMEDR325
RD, TRANSPORTATION EQUIPMENT INDST	XMEDR321.29	B	
RD, ELECTRICAL PRODUCTS INDUSTRIES	XMEDR331.39	B	
RD, NONMETALLIC MINERAL PRODUCTS INDST	XMEDR351.59	=	XMEDR251.59 + XMEDR261.68 + XMEDR291.98 + XMEDR301.09 + XMEDR311.18 + XMEDR321.29 + XMEDR331.39 + XMEDR351.59
RD, MANUFACTURING DURABLES, TOTAL	XMEDR	B	
RD, FOOD & BEVERAGE INDUSTRIES	XMEND101.09	B	
RD, TOBACCO PRODUCTS INDUSTRIES	XMEND151.53	B	
RD, RUBBER & PLASTICS PRODUCTS INDST	XMEND162.65	B	
RD, LEATHER INDUSTRIES	XMEND172.79	B	
RD, TEXTILE INDUSTRIES	XMEND181.89	B	
RD, KNITTING MILLS & CLOTHING INDST	XMEND231.49	B	
RD, PAPER & ALLIED INDUSTRIES	XMEND271.74	B	
RD, PRINTING, PUBLISHING & ALLIED INDST	XMEND286.89	B	
RD, PETROLEUM & COAL PRODUCTS INDST	XMEND365.69	B	
RD, CHEMICAL & CHEMICAL PRODUCTS INDST	XMEND372.79	B	
RD, MISCELLANEOUS MANUFACTURING INDST	XMEND391.99	B	
RD, MANUFACTURING NONDURABLES, TOTAL	XMEND	=	XMEND101.09 + XMEND151.53 + XMEND162.65 + XMEND172.79 + XMEND181.89 + XMEND231.49 + XMEND271.74 + XMEND286.89 + XMEND365.69 + XMEND372.79 + XMEND391.99 = XMEDR + XMEND
RD, MANUFACTURING, TOTAL	XMF	B	
RD, CONSTRUCTION INDUSTRIES	XCNST404.21	B	
RD, TRANSPORTATION INDUSTRIES	XTRSP501.27	B	
RD, COMMUNICATION INDUSTRIES	XCOMM543.48	B	
RD, FINANCE, INSURANCE & REAL ESTATE INDST	XFIRE701.37	B	
RD, OWNER OCCUPIED DWELLINGS	XRENTOOD	B	
RD, UTILITY INDUSTRIES	XUTIL572.79	B	
RD, WHOLESALE & RETAIL TRADE INDUSTRIES	XTRAD602.99	B	
RD, COMMERCIAL SERVICES INDUSTRIES	XSVCM	B	
RD, OTHER NONCOMMERCIAL SERVICES INDST	XSVNC	B	
RD, COLLEGE & UNIVERSITY EDUCATION	XSVHGED806	B	
RD, PRIMARY, SECONDARY & NONUNIV POST SEC EDUC	XGPSED	B	
RD, HOSPITALS	XGHOSP821	B	
RD, PUBLIC ADMINISTRATION, FEDERAL DEFENCE	XGPAFD902	B	
RD, PUBLIC ADMINISTRATION, FEDERAL NONDEFENCE	XGPAFND909	B	

RDP, PUBLIC ADMINISTRATION, FEDERAL, TOTAL
 RDP, PUBLIC ADMINISTRATION, LOCAL GOVERNMENT
 RDP, PUBLIC ADMINISTRATION, PROVINCIAL GOVERNMENT
 RDP, PUBLIC ADMINISTRATION (INCL DEFENCE), TOTAL
 RDP, REAL DOMESTIC PRODUCT, TOTAL ECONOMY

XGPAF902.09
 XGPAL951
 XGPAP931
 XGPA902.51
 XRDP

= XGPAFD902 + XGPAFND909

B

B

= XGPAF902.09 + XGPAL951 + XGPAP931

= XAGFT1.21+41.7 + XFSTY31.9 + XMI + XMF + XCNST404.21
 + XTRSP501.27 + XCOMM543.48 + XFIRE701.37 + XRENTOOD
 + XUTIL572.79 + XTRAD602.99 + XSVCM + XSVNC
 + XSVHGED806 + XGPSED + XGHOSP821 + XGPA902.51

Equation No.: 2352

Name: RDP, Agriculture, Fishing and Trapping Industries

Mnemonic: XAGFT1.21+41.7

Period: 1956-74

XAGFT1.21+41.7 - EAGFT1.21+41.7

= + 2712.63000
(7.32)

- 0.38542 TEGRAINSW(-1)
(2.07)

- 266.66000 XDUMBADW
(2.98)

+ 202.31300 XDUMGOODW
(3.21)

- 35.07340 TIME
(4.92)

$\bar{R}^2 = .880$

SEE = 112.89

D.W. = .964

Equation No.: 2353

Name: RDP, Forestry Industry

Mnemonic: XFSTY31.9

Period: 1959-74

XFSTY31.9 / EFSTY31.9

= + 1.45923
(3.93)

+ .25224 (XFSTY31.9(-1) / EFSTY31.9(-1))
(1.16)

- .43198 (XFSTY31.9(-2) / EFSTY31.9(-2))
(1.68)

- .094936 XDUM6170
(1.73)

- .15594 XDUM7174
(2.13)

+ sum(i=0,3)b(i) (PXFSTY31.9(-i) / PXRDP(-i))

i	b(i)	t(i)
0	+.16440	(1.02)
1	-.34450	(1.62)
2	-.29187	(1.76)
3	+.32229	(1.31)

sum -.14968 (1.32)

(2,4,NONE)

$\bar{R}^2 = .397$

SEE = .032

D.W. = 2.538

Equation No.: 2354

Name: RDP, Coal Mining Industry

Mnemonic: XMICL61

Period: 1957-74

XMICL61 - EMICL61

= - 20.58460
(1.29)

+ .86930 (XMICL61(-1) - EMICL61(-1))
(6.82)

+ 26.40910 XDUM6170
(1.87)

- 31.77060 XDUM7174
(1.57)

$\bar{R}^2 = .910$

SEE = 18.352

D.W. = 2.000

Equation No.: 2355

Name: RDP, Crude Petroleum, Natural Gas and Services
Incidental to Mining Industry

Mnemonic: XMICP64+96.9

Period: 1956-74

XMICP64+96.9 - EMICP64+96.9

= - 333.62200
(5.62)

+ 4.86440 TIME
(5.35)

$\bar{R}^2 = 0.605$

SEE = 21.726

D.W. = 1.610

Equation No.: 2356

Name: RDP, Metal Mining Industry

Mnemonic: XMIMM51.9

Period: 1957-74

XMIMM51.9 - EMIMM51.9

= + 136.29100
(3.76)

+ .57538 (XMIMM51.9(-1) - EMIMM51.9(-1))
(4.38)

- 114.77100 XDUM6170
(3.92)

- 140.81600 XDUM7174
(3.37)

$\bar{R}^2 = .860$

SEE = 41.963

D.W. = 2.171

Equation No.: 2357

Name: RDP, Nonmetal Mining and Quarrying Industries

Mnemonic: XMINM71.87

Period: 1958-74

XMINM71.87 - EMINM71.87

= - 14.86920
(3.79)

- .23038 (XMINM71.87(-1) - EMINM71.87(-1))
(0.81)

- .56530 (XMINM71.87(-2) - EMINM71.87(-2))
(1.83)

+ 11.62510 XDUM7174
(2.54)

$\overline{R}^2 = .259$

SEE = 7.695

D.W. = 1.549

Equation No.: 2359

Name: RDP, Wood Products Industry

Mnemonic: XMFDR251.59

Period: 1957-74

$\ln(\text{XMFDR251.59} / \text{EMFDR251.59})$

= + .03889
(1.92)

+ .31258 $\ln(\text{XMFDR251.59}(-1) / \text{EMFDR251.59}(-1))$
(1.45)

- .037447 XDUM6170
(2.04)

- .037187 XDUM7174
(1.39)

$\bar{R}^2 = .566$

SEE = .0223

D.W. = 2.074

Equation No.: 2360

Name: RDP, Furniture and Fixtures Industries

Mnemonic: XMFDR261.68

Period: 1959-74

$\ln(\text{XMFDR261.68} / \text{EMFDR261.68})$

= + .0040662
(0.12)

+ .87344 $\ln(\text{XMFDR261.68}(-1) / \text{EMFDR261.68}(-1))$
(4.21)

- .072167 XDUM7174
(2.29)

+ $\sum(i=0,2)b(i) (\ln(\text{PXMFR261.68}(-i) / \text{PXRDP}(-i))$
- $\ln(\text{PXMFR261.68}(-i-1) / \text{PXRDP}(-i-1)))$

i	b(i)	t(i)
0	-1.38578	(2.71)
1	-1.03996	(2.18)
2	-.00062605	(0.0014)

sum -2.42637 (2.31)

(2,3,NONE)

$\bar{R}^2 = .889$

SEE = .0313

D.W. = 2.384

Equation No.: 2361

Name: RDP, Iron and Steel Industries

Mnemonic: XMFDR291.94

Period: 1960-74

$\ln(\text{XMFDR291.94} / \text{EMFDR291.94})$

= - .040359
(0.81)

+ .38005 $\ln(\text{XMFDR291.94}(-1) / \text{EMFDR291.94}(-1))$
(1.50)

+ $\sum(i=0,3)b(i) (\ln(\text{PXMFR291.94}(-i) / \text{PXRDP}(-i))$
- $\ln(\text{PXMFR291.94}(-i-1) / \text{PXRDP}(-i-1)))$

i	b(i)	t(i)
0	-1.23816	(1.22)
1	-1.51925	(1.56)
2	-1.37348	(1.49)
3	- .80087	(1.17)

sum -4.93176 (1.72)

(2,4,NONE)

$\bar{R}^2 = .084$

SEE = .0568

D.W. = 1.168

Equation No.: 2362

Name: RDP, Nonferrous Metal Industries

Mnemonic: XMFDR295.98

Period: 1959-74

$\ln(\text{XMFDR295.98} / \text{EMFDR295.98})$

= + .05206
(1.39)

- .48281 $\ln(\text{XMFDR295.98}(-1) / \text{EMFDR295.98}(-1))$
(1.56)

- .062636 XDUM7174
(1.26)

+ $\text{sum}(i=0,3)b(i) \ln(\text{PXMFR295.98}(-i) / \text{PXRDP}(-i))$

i	b(i)	t(i)
0	-.20886	(0.76)
1	-.012517	(0.063)
2	-.033846	(0.19)
3	-.27285	(1.46)

sum -.52808 (1.46)

(2,4,NONE)

$\bar{R}^2 = .005$

SEE = .047

D.W. = 2.138

$D.W. = 1.590$

Equation No.: 2365

Name: RDP, Machinery Industry

Mnemonic: XMFDR311.18

Period: 1958-74

$\ln(\text{XMFDR311.18} / \text{EMFDR311.18})$

= + .0053594
(0.16)

+ $\text{sum}(i=1,2)b(i) \ln(\text{PXMFR311.18}(-i) / \text{PXRDP}(-i))$

i	b(i)	t(i)
1	-1.23573	(1.41)
2	+ .83234	(0.82)
sum	- .40339	(1.43)
(1,2,NONE)		

$\overline{R^2} = .224$

SEE = .057

D.W. = 1.562

Equation No.: 2366

Name: RDP, Nonauto Transport Equipment Industries

Mnemonic: XMFD321+26.9

Period: 1958-74

XMFD321+26.9 / EMFD321+26.9

= + .85088
(2.00)

+ .57654 (XMFD321+26.9(-1) / EMFD321+26.9(-1))
(1.91)

- .20538 (XMFD321+26.9(-2) / EMFD321+26.9(-2))
(0.74)

- .22063 XDUM7174
(1.55)

$\overline{R}^2 = .600$

SEE = .142

D.W. = 2.024

Equation No.: 2367

Name: RDP, Motor Vehicle Industries (Excluding Parts and Accessories)

Mnemonic: XMFDR323.24

Period: 1957-74

XMFDR323.24 - EMFDR323.24

= - 279.09500
(2.16)

+ 0.27905 (XMFDR323.24(-1) - EMFDR323.24(-1))
(1.17)

+ 3.71305 TIME
(1.98)

$\bar{R}^2 = 0.292$

SEE = 37.213

D.W. = 2.036

Equation No.: 2368

Name: RDP, Motor Vehicle Parts and Accessories Industries

Mnemonic: XMFDR325

Period: 1956-74

ln(XMFDR325 / EMFDR325)

= - .33551
(2.98)

- .69044 ln(PXMFDR325 / PXRDP)
(1.48)

+ .21845 XDUM6170
(2.08)

+ .43580 XDUM7174 . ,
(5.04)

$\bar{R}^2 = .650$

SEE = .0921

D.W. = 1.630

Equation No.: 2370

Name: RDP, Electrical Products Industries

Mnemonic: XMFDR331.39

Period: 1957-74

XMFDR331.39 / EMFDR331.39

= + 1.06316
(3.34)

+ .14706 (XMFDR331.39(-1) / EMFDR331.39(-1))
(0.63)

- .16781 (PXMFD331.39 / PXRDP)
(1.16)

$\bar{R}^2 = .304$

SEE = .067

D.W. = 0.660

RHO = 0.658

Equation No.: 2371

Name: RDP, Nonmetallic Mineral Products Industries

Mnemonic: XMFDR351.59

Period: 1957-74

XMFDR351.59 / EMFDR351.59

= + .77735
(3.36)

+ .22757 (XMFDR351.59(-1) / EMFDR351.59(-1))
(0.99)

+ .054322 XDUM6170
(2.11)

- .063924 XDUM6670
(2.85)

- .028908 XDUM7174
(1.23)

$\bar{R}^2 = .574$

SEE = .0321

D.W. = 2.583

Equation No.: 2373

Name: RDP, Food and Beverage Industries

Mnemonic: XMFND101.09

Period: 1958-74

XMFND101.09 - EMFND101.09

= - 310.07000
(1.32)

+ 0.97847 (XMFND101.09(-1) - EMFND101.09(-1))
(3.92)

- 0.42227 (XMFND101.09(-2) - EMFND101.09(-2))
(1.70)

+ 4.87165 TIME
(1.38)

$\bar{R}^2 = 0.749$

SEE = 39.558

D.W. = 1.860

Equation No.: 2374

Name: RDP, Tobacco and Tobacco Products Industries

Mnemonic: XMFND151.53

Period: 1957-74

$\ln(\text{XMFND151.53} / \text{EMFND151.53})$

= - .0022973
(0.38)

+ .52093 $\ln(\text{XMFND151.53}(-1) / \text{EMFND151.53}(-1))$
(2.54)

- .057887 $\ln(\text{PXMFDND151.53} / \text{PXRDP})$
(0.48)

- .10718 $\ln(\text{PXMFDND151.53}(-1) / \text{PXRDP}(-1))$
(0.82)

$\bar{R}^2 = .234$

SEE = .022

D.W. = 1.795

Equation No.: 2375

Name: RDP, Rubber and Plastic Products Industries

Mnemonic: XMFND162.65

Period: 1958-74

XMFND162.65 / EMFND162.65

= + .56820
(1.21)

+ .73134 (XMFND162.65(-1) / EMFND162.65(-1))
(3.54)

- .84407 (PXMFDND162.65 / PXRDP)
(3.04)

+ .93753 (PXMFDND162.65(-1) / PXRDP(-1))
(2.51)

- .37850 (PXMFDND162.65(-2) / PXRDP(-2))
(1.65)

$\bar{R}^2 = .925$

SEE = .049

D.W. = 2.295

Equation No.: 2376

Name: RDP, Leather Products Industry

Mnemonic: XMFND172.79

Period: 1958-74

$\ln(\text{XMFND172.79} / \text{EMFND172.79})$

= - .023395
(2.17)

- .31006 $\ln(\text{XMFND172.79}(-1) / \text{EMFND172.79}(-1))$
(1.17)

- 1.09827 $\ln(\text{PXMFDND172.79} / \text{PXRDP})$
(2.36)

+ .80041 $\ln(\text{PXMFDND172.79}(-1) / \text{PXRDP}(-1))$
(1.21)

- .62909 $\ln(\text{PXMFDND172.79}(-2) / \text{PXRDP}(-2))$
(1.05)

$\bar{R}^2 = .154$

SEE = .038

D.W. = 2.065

Equation No.: 2377

Name: RDP, Textile Industry

Mnemonic: XMFND181.89

Period: 1959-74

$\ln(\text{XMFND181.89} / \text{EMFND181.89})$

= - .12445
(2.29)

+ .23170 $\ln(\text{XMFND181.89}(-1) / \text{EMFND181.89}(-1))$
(0.83)

+ .061004 XDUM7174
(1.17)

+ $\text{sum}(i=0,2)b(i) (\ln(\text{PXM FND181.89}(-i) / \text{PXRDP}(-i))$
 $- \ln(\text{PXM FND181.89}(-i-1) / \text{PXRDP}(-i-1)))$

i	b(i)	t(i)
0	- .57985	(0.85)
1	-1.29363	(1.46)
2	- .33358	(0.55)

sum -2.20706 (1.63)

(2,3,NONE)

$\overline{R^2} = .607$

SEE = .053

D.W. = 1.718

Equation No.: 2378

Name: RDP, Knitting Mills and Clothing Industry

Mnemonic: XMFND231.49

Period: 1959-74

$\ln(\text{XMFND231.49} / \text{EMFND231.49})$

= + .0051631
(0.54)

+ .27825 $\ln(\text{XMFND231.49}(-1) / \text{EMFND231.49}(-1))$
(0.94)

- .19037 $(\ln(\text{PXMFDND231.49}(-1) / \text{PXRDP}(-1))$
(0.55) $- \ln(\text{PXMFDND231.49}(-2) / \text{PXRDP}(-2)))$

- .64967 $(\ln(\text{PXMFDND231.49}(-2) / \text{PXRDP}(-2))$
(1.73) $- \ln(\text{PXMFDND231.49}(-3) / \text{PXRDP}(-3)))$

- .023081 XDUM7174
(1.37)

$\bar{R}^2 = .136$

SEE = .026

D.W. = 1.946

Equation No.: 2379

Name: RDP, Paper and Allied Industries

Mnemonic: XMFND271.74

Period: 1957-74

$\ln(\text{XMFND271.74} / \text{EMFND271.74})$

= + .021360
(2.85)

+ .081108 $\ln(\text{XMFND271.74}(-1) / \text{EMFND271.74}(-1))$
(0.30)

+ .094655 $\ln(\text{PXMFDND271.74} / \text{PXRDP})$
(1.78)

- .11045 $\ln(\text{PXMFDND271.74}(-1) / \text{PXRDP}(-1))$
(2.13)

$\bar{R}^2 = .139$

SEE = .014

D.W. = 1.959

Equation No.: 2380

Name: RDP, Printing, Publishing and Allied Products Industries

Mnemonic: XMFND286.89

Period: 1957-74

(XMFND286.89 - EMFND286.89) - (XMFND286.89(-1) - EMFND286.89(-1))

= - 144.23300
(2.04)

+ 2.23044 TIME
(2.07)

$\bar{R}^2 = 0.162$

SEE = 23.694

D.W. = 1.664

Equation No.: 2381

Name: RDP, Petroleum and Coal Product Industries

Mnemonic: XMFND365.69

Period: 1958-74

XMFND365.69 / EMFND365.69

= + 1.10824
(49.10)

- .040374 XDUM7174
(2.12)

+ sum(i=0,2) (PXMFDND365.69(-i) / PXRDP(-i))

i	b(i)	t(i)
0	-.034645	(1.35)
1	+.012944	(0.51)
2	-.025233	(1.30)
sum	-.046933	(3.07)

(2,3,NONE)

$\bar{R}^2 = .351$

SEE = .304

D.W. = 1.878

Equation No.: 2382

Name: RDP, Chemical and Chemical Product Industries

Mnemonic: XMFND372.79

Period: 1957-74

$\ln(\text{XMFND372.79} / \text{EMFND372.79})$

= + .029218
(3.47)

+ .58558 $\ln(\text{XMFND372.79}(-1) / \text{EMFND372.79}(-1))$
(5.16)

- .24761 $\ln(\text{PXMFDND372.79} / \text{PXRDP})$
(3.49)

$\bar{R}^2 = .955$

SEE = .0230

D.W. = 2.461

Equation No.: 2383

Name: RDP, Miscellaneous Manufacturing Industries

Mnemonic: XMFND391.99

Period: 1957-74

XMFND391.99 / EMFND391.99

= + .75716
(2.60)

+ .33967 (XMFND391.99(-1) / EMFND391.99(-1))
(1.35)

- .078487 XDUM6170
(1.75)

- .11842 XDUM7174
(2.12)

$\bar{R}^2 = .514$

SEE = .0573

D.W. = 2.137

Equation No.: 2386

Name: RDP, Construction Industry

Mnemonic: XCNST404.21

Period: 1957-74

XCNST404.21 - ECNST404.21

= + 109.93900
(1.72)

+ .52772 (XCNST404.21(-1) - ECNST404.21(-1))
(2.18)

- 166.68300 XDUM7174
(2.02)

$\overline{R^2}$ = .780

SEE = 74.842

D.W. = 1.893

Equation No.: 2387

Name: RDP, Transportation Industries

Mnemonic: XTRSP501.27

Period: 1957-74

XTRSP501.27 - ETRSP501.27

= - 189.86700
(1.44)

+ .60239 (XTRSP501.27(-1) - ETRSP501.27(-1))
(2.43)

+ 91.89080 XDUM6170
(1.26)

+ 246.85400 XDUM7174
(1.59)

$\bar{R}^2 = .787$

SEE = 109.66

D.W. = 1.775

Equation No.: 2388

Name: RDP, Communication Industries

Mnemonic: XCOMM543.48 ,

Period: 1957-74

XCOMM543.48 / ECOMM543.48

= + .20767
(2.73)

+ .80876 (XCOMM543.48(-1) / ECOMM543.48(-1))
(10.37)

- .019392 XDUM6170
(3.93)

$\bar{R}^2 = .864$

SEE = .010

D.W. = 1.643

Equation No.: 2389

Name: RDP, Finance, Insurance and Real Estate Industries

Mnemonic: XFIRE701.37

Period: 1957-74

XFIRE701.37 - EFIRE701.37

= - 38.91840
(1.03)

+ .79742 (XFIRE701.37(-1) - EFIRE701.37(-1))
(4.27)

+ 165.44900 XDUM7174
(2.34)

$\bar{R}^2 = .605$

SEE = 122.93

D.W. = 1.495

Equation No.: 2390

Name: RDP, Owner Occupied Dwellings

Mnemonic: XRENTOOD

Period: 1957-74

XRENTOOD - ERENTOOD

= + 25.66790
(1.48)

+ .98354 (XRENTOOD(-1) - ERENTOOD(-1))
(22.97)

- 33.55790 XDUM6170
(1.38)

- 93.97540 XDUM6670
(3.64)

$\bar{R}^2 = .980$

SEE = 35.795

D.W. = 2.621

Equation No.: 2391

Name: RDP, Utility Industries

Mnemonic: XUTIL572.79

Period: 1957-74

XUTIL572.79 - EUTIL572.79

= - 540.23000
(2.91)

+ .91203 (XUTIL572.79(-1) - EUTIL572.79(-1))
(6.86)

- 65.20010 XDUM6170
(3.27)

- 72.27700 XDUM7174
(1.84)

+ 9.24261 TIME
(3.35)

$\bar{R}^2 = .980$

SEE = 21.083

D.W. = 2.256

Equation No.: 2392

Name: RDP, Trade Industries

Mnemonic: XTRAD602.99

Period: 1958-74

$\ln(\text{XTRAD602.99} / \text{ETRAD602.99})$

= + .0017246
(0.38)

+ $\text{sum}(i=0,2)b(i) \ln(\text{PXTRAD602.99}(-i) / \text{PXRDP}(-i))$

i	b(i)	t(i)
0	-.37336	(3.54)
1	-.090240	(8.64)
2	+.19288	(1.81)

sum -.27072 (8.64)

(1,3,NONE)

$\bar{R}^2 = .838$

SEE = .0082

D.W. = 1.867

Equation No.: 2393

Name: RDP, Commercial Services Industries

Mnemonic: XSVCM

Period: 1957-74

(XSVCM - ESVCM) - (XSVCM(-1) - ESVCM(-1))

= - 1080.18000
(3.50)

+ 17.46860 TIME
(3.72)

$\bar{R}^2 = 0.431$

SEE = 103.31

D.W. = 2.143

Equation No.: 2394

Name: RDP, Other Noncommercial Services Industries

Mnemonic: XSVNC

Period: 1957-74

XSVNC - ESVNC

= + 48.11900
(4.51)

+ .20295 (XSVNC(-1) - ESVNC(-1))
(1.85)

+ 24.77140 XDUM6170
(1.98)

- 74.44480 XDUM7174
(5.83)

+ 44.34140 XDUM6670
(3.58)

$\bar{R}^2 = .918$

SEE = 17.910

D.W. = 1.780

Equation No.: 2395

Name: RDP, College and University Education

Mnemonic: XSVHGED806

Period: 1957-74

XSVHGED806 - ESVHGED806

= + 531.44000
(1.21)

+ 0.47046 (XSVHGED806(-1) - ESVHGED806(-1))
(2.28)

- 9.74122 TIME
(1.22)

+ 0.29336 DUNVENROL
(1.36)

$\bar{R}^2 = 0.415$

SEE = 17.385

D.W. = 2.046

Equation No.: 2396

Name: RDP, Primary, Secondary and Non-University Post Secondary
Education

Mnemonic: XGPSED

Period: 1958-74

XGPSED - EGPSED

= - 1277.57000
(2.17)

+ .86336 (XGPSED(-1) - EGPSED(-1))
(2.96)

- .25667 (XGPSED(-2) - EGPSED(-2))
(1.04)

+ 17.8184 TIME
(2.17)

$\bar{R}^2 = .929$

SEE = 65.495

D.W. = 1.994

Equation No.: 2397

Name: RDP, Hospitals

Mnemonic: XGHOSP821

Period: 1957-74

XGHOSP821 - EGHOSP821

= + 194.50100
(3.86)

+ .43761 (XGHOSP821(-1) - EGHOSP821(-1))
(3.03)

- 45.25250 XDUM6170
(2.20)

- 126.74700 XDUM6670
(4.17)

- 175.98000 XDUM7174
(3.47)

$\bar{R}^2 = .955$

SEE = 29.100

D.W. = 1.847

Equation No.: 2398

Name: RDP, Public Administration, Federal Defence

Mnemonic: XGPAFD902

Period: 1957-74

XGPAFD902 - EGPAFD902

= + 14.30480
(2.80)

+ .56309 (XGPAFD902(-1) - EGPAFD902(-1))
(3.47)

- 17.32610 XDUM6170
(2.75)

$\bar{R}^2 = .587$

SEE = 12.851

D.W. = 2.100

Equation No.: 2399

Name: RDP, Other Federal Administration

Mnemonic: XGPAFND909

Period: 1957-74

XGPAFND909 - EGPAFND909

= + 8.14560
(1.26)

+ .36457 (XGPAFND909(-1) - EGPAFND909(-1))
(1.92)

- 26.74130 XDUM6670
(2.19)

$\bar{R}^2 = .345$

SEE = 22.567

D.W. = 1.942

Equation No.: 2402

Name: RDP, Public Administration, Local Government

Mnemonic: XGPAL951

Period: 1956-74

XGPAL951 - EGPAL951

= + 55.20000
(10.32)

- 35.01990 XDUM6170
(4.63)

- 33.88010 XDUM6670
(4.48)

- 50.00000 XDUM7174
(6.23)

$\bar{R}^2 = .825$

SEE = 11.964

D.W. = 2.218

Equation No.: 2401

Name: RDP, Provincial Administration

Mnemonic: XGPAP931

Period: 1956-74

XGPAP931 - EGPAP931

= + 135.09000
(30.09)

+ 58.99000 XDUM6670
(7.59)

- 130.49000 XDUM7174
(15.54)

$\bar{R}^2 = .932$

SEE = 14.195

D.W. = 2.244

CAPITAL STOCK AT THE INDUSTRY LEVEL (PUBLIC AND PRIVATE)

For the commercial sector (Industries 1 through 38) capital stock at the industry level is disaggregated as in Table 1. Furthermore, because we have investment activity in the commercial sector for both machinery and equipment and construction, we provide estimates of capital stock for both machinery and equipment and construction. Finally, because government sector investment activity is disaggregated by level of government and within each level of government by construction and machinery and equipment, these detailed disaggregated levels for capital stock are also available.

In order to generate the capital stock series within the context of CANDIDE Model 2.0, we must have on hand exogenous estimates of economic depreciation rates by type of capital. The depreciation rates are derived from the economic life of a given capital good. The economic lives are Construction Division estimates. Once we know the economic life and have a bench mark estimate for capital stock we derive time series on capital stock by applying the economic depreciation rates to initial period capital stock. Adding new investment activity to this calculation provides an estimate of end of period capital stock.

Repeated application of this procedure results in a time series on Capital stock.

Capital stock estimates are major inputs to several important blocks elsewhere in CANDIDE Model 2.0. They influence the manhours and employment blocks as inputs to the production functions. They influence the final demand blocks as inputs to the investment functions. They influence sector price determination as inputs to the unit capital cost calculation. They also influence the determination of capital consumption allowances and certain capital flows in the balance of payments block.

In summary, capital stock is generated through a system of technical identities. Given economic depreciation rates (derived from the economic life) and initial period estimates of capital stock, end of period stock estimates are generated by applying economic depreciation rates and then adding new capital formation. The aggregation levels in the commercial sector for capital stock are identical to those associated with production and investment. In the government block investment and capital stock are disaggregated by the level of government. Capital stock estimates directly influence investment, employment, capital consumption allowances, capital flows, and, in a few instances, industry pricing decisions.

VARIABLES DETERMINED OUTSIDE THE BUSINESS CAPITAL STOCK - M & E BLOCK

INV AGRIC FISH & TRAP INDST - M & E	IAGPTM
INV CONSTRUCTION INDST - M & E	ICNSTM
INV COMMUNICATION INDST - M & E	ICOMMM543.8
INV FIN INS & REAL ESTATE INDST - M & E	IFIREM701.37
INV FORESTRY INDST - M & E	IFSTVM31.9
INV WOOD INDST - M & E & CICOE	IMFDM251.9
INV FURNITURE & FIXTURE INDST - M & E & CICOE	IMFDM261.8
INV IRON & STEEL INDST - M & E & CICOE	IMFDM291.4
INV NONFERROUS METALS - M & E & CICOE	IMFDM295.8
INV METAL FAB INDST - M & E & CICOE	IMFDM301.9
INV MACH (EX ELEC MACH) INDST - M & E & CICOE	IMFDM311.8
INV NON AUTO TRANSPORT EQUIP - M & E & CICOE	IMFDM321+326.9
INV MOTOR VEHICLE (EX PARTS & ACC) - M & E & CICOE	IMFDM323.4
INV MOTOR VEHICLE PARTS & ACC - M & E & CICOE	IMFDM325
INV ELECTRICAL PROD INDST - M & E & CICOE	IMFDM331.9
INV NON METAL MIN PROD INDST - M & E & CICOE	IMFDM351.9
INV FOOD & BEVERAGE INDST - M & E & CICOE	IMFDM101.9
INV TOBACCO PROD INDST - M & E & CICOE	IMFDM151.3
INV RUBBER & PLASTIC PROD INDST - M & E & CICOE	IMFDM162.5
INV LEATHER INDST - M & E & CICOE	IMFDM172.9
INV TEXTILE INDST - M & E & CICOE	IMFDM181.9
INV KNITTING & CLOTHING INDST - M & E & CICOE	IMFDM231.49
INV PAPER & ALLIED INDST - M & E & CICOE	IMFDM271.4
INV PRINT, PUB & ALLIED INDST - M & E & CICOE	IMFDM286.9
INV PET & COAL PROD INDST - M & E & CICOE	IMFDM365.9
INV CHEM & CHEM PROD INDST - M & E & CICOE	IMFDM372.9
INV MISC MANUF INDST - M & E & CICOE	IMFDM391.9
INV COAL MINING - M & E & CICOE	IMICLM61
INV METAL MINING INDST - M & E	IMIMM51.9
INV NONMETAL MINING (EX COAL) - M & E & CICOE	IMINMM71.87
INV CRD PET NATL GAS & SRV INC TO MIN INDST - M & E	IMIPM64+96.9
INV COMMER SRVS INDST - M & E	ISVCCMM
INV COLLEGE & UNIV EDUC - M & E	ISVHGDM806
INV OTHER NONCOMMER SRVS INDST - M & E	ISVNCM
INV WHOLESALE & RETAIL TRADE INDST - M & E & CICOE	ITRADM602.99
INV TRANSPORT INDST - M & E & CICOE	ITRSPM501.27
INV UTILITY INDST - M & E & CICOE	IUTILM572.9

VARIABLES EXOGENOUS TO THE BUSINESS CAPITAL STOCK - M & E BLOCK

ECON DEPR AGRIC FISH & TRAP INDST - M & E	IEDAGFTM	E
ECON DEPR CONSTRUCTION INDST - M & E	IEDCNSTM	E
ECON DEPR COMMUNICATION INDST - M & E	IEDCOMMM543.8	E
ECON DEPR FIN INS & REAL ESTATE INDST - M & E	IEDFIREM701.37	E
ECON DEPR FORESTRY INDST - M & E	IEDFSTYM31.9	E
ECON DEPR WOOD INDST - M & E & CICOE	IEDMFDW251.9	E
ECON DEPR FURNITURE & FIXTURE INDST - M & E & CICOE	IEDMFDW261.8	E
ECON DEPR IRON & STEEL INDST - M & E	IEDMFDW291.4	E
ECON DEPR NONFERROUS METALS - M & E	IEDMFDW295.8	E
ECON DEPR METAL FAB INDST - M & E & CICOE	IEDMFDW301.9	E
ECON DEPR MACH (EX ELEC MACH) INDST - M & E & CICOE	IEDMFDW311.8	E
ECON DEPR NON AUTO TRANSPORT EQUIP - M & E & CICOE	IEDMFDW321+26.9	E
ECON DEPR MOTOR VEHICLE (EX PARTS & ACC) - M & E & CICOE	IEDMFDW323.4	E
ECON DEPR MOTOR VEHICLE PARTS & ACC - M & E & CICOE	IEDMFDW325	E
ECON DEPR ELECTRICAL PROD INDST - M & E & CICOE	IEDMFDW331.9	E
ECON DEPR NON MET MINING PROD INDST - M & E & CICOE	IEDMFDW351.9	E
ECON DEPR FOOD & BEVERAGES INDST - M & E & CICOE	IEDMFDW401.9	E
ECON DEPR TOBACCO PROD INDST - M & E & CICOE	IEDMFDW451.3	E
ECON DEPR RUBBER & PLASTIC PROD INDST - M & E & CICOE	IEDMFDW162.5	E
ECON DEPR LEATHER INDST - M & E & CICOE	IEDMFDW172.9	E
ECON DEPR TEXTILE INDST - M & E & CICOE	IEDMFDW181.9	E
ECON DEPR KNITTING & CLOTHING INDST - M & E & CICOE	IEDMFDW231.49	E
ECON DEPR PAPER & ALLIED INDST - M & E & CICOE	IEDMFDW271.4	E
ECON DEPR PRINT, PUB & ALLIED INDST - M & E & CICOE	IEDMFDW286.9	E
ECON DEPR PET & COAL PROD INDST - M & E & CICOE	IEDMFDW365.9	E
ECON DEPR CHEM & CHEM PROD INDST - M & E & CICOE	IEDMFDW372.9	E
ECON DEPR MISC MANUF INDST - M & E & CICOE	IEDMFDW391.9	E
ECON DEPR COAL MINING - M & E & CICOE	IEDMCLW61	E
ECON DEPR METAL MINING INDST - M & E	IEDMIMMW51.9	E
ECON DEPR NONMETAL MINING (EX COAL) - M & E & CICOE	IEDMINMW71.87	E
ECON DEPR CRD PET NATL GAS & SRVS INC TO MIN IND - M & E	IEDMIPMG4+96.9	E
ECON DEPR COMMER SRVS INDST - M & E	IEDSVCHW	E
ECON DEPR COLLEGE & UNIV INDST - M & E	IEDSVHGEDM806	E
ECON DEPR OTHER NONCOMMER SRVS INDST - M & E	IEDSVNCM	E
ECON DEPR WHOLESALE & RETAIL TRADE INDST - M & E	IEDTRADM602.99	E
ECON DEPR TRANSPORT INDST - M & E & CICOE	IEDTRSPM501.27	E
ECON DEPR UTILITY INDST - M & E	IEDUTILW572.9	E

VARIABLES ENDOGENOUS TO THE BUSINESS CAPITAL STOCK - M & E BLOCK (IDENTITIES)

CAP STOCK AGRIC FISH & TRAP INDST - M & E	IKAGFTM	= IKAGFTM(-1) * (1 - 2 * IEDAGFTM) + IAGFTM
CAP STOCK FORESTRY INDST - M & E	IKFSTVM31.9	= IKFSTVM31.9(-1) * (1 - 2 * IEDFSTVM31.9) + IPSTVM31.9
CAP STOCK COAL MINING - M & E & CIOCE	IKMICLM61	= IKMICLM61(-1) * (1 - 2 * IEDMICLM61) + IMICLM61
CAP STOCK CRD PET NATL GAS & SRVS INC TO MIN IND - M & E	IKMIPM64+96.9	= IKMIPM64+96.9(-1) * (1 - 2 * IEDMIPM64+96.9) + IMIPM64+96.9
CAP STOCK METAL MINING INDST - M & E	IKMIMMS1.9	= IKMIMMS1.9(-1) * (1 - 2 * IEDMIMMS1.9) + IMIMMS1.9
CAP STOCK NONMETAL MINING (EX COAL) - M & E & CIOCE	IKMINMW71.87	= IKMINMW71.87(-1) * (1 - 2 * IEDMINMW71.87) + IMINMW71.87
CAP STOCK MINING TOTAL - M & E	IKMIM	= IKMICLM61 + IKMIPM64+96.9 + IKMIMMS1.9 + IKMINMW71.87
CAP STOCK WOOD INDST - M & E & CIOCE	IKMFM251.9	= IKMFM251.9(-1) * (1 - 2 * IEDMFM251.9) + IMFM251.9
CAP STOCK FURNITURE & FIXTURE INDST - M & E & CIOCE	IKMFM261.8	= IKMFM261.8(-1) * (1 - 2 * IEDMFM261.8) + IMFM261.8
CAP STOCK IRON & STEEL INDST - M & E & CIOCE	IKMFM291.4	= IKMFM291.4(-1) * (1 - 2 * IEDMFM291.4) + IMFM291.4
CAP STOCK NONFERROUS METALS - M & E & CIOCE	IKMFM295.8	= IKMFM295.8(-1) * (1 - 2 * IEDMFM295.8) + IMFM295.8
CAP STOCK PRIMARY METAL INDST - M & E	IKMFM291.8	= IKMFM291.4 + IKMFM295.8
CAP STOCK METAL FAB INDST - M & E & CIOCE	IKMFM301.9	= IKMFM301.9(-1) * (1 - 2 * IEDMFM301.9) + IMFM301.9
CAP STOCK WACH (EX ELEC MACH) INDST - M & E & CIOCE	IKMFM311.8	= IKMFM311.8(-1) * (1 - 2 * IEDMFM311.8) + IMFM311.8
CAP STOCK NONAUTO TRANSPORT EQUIP - M & E & CIOCE	IKMFM321+326.9	= IKMFM321+326.9(-1) * (1 - 2 * IEDMFM321+326.9) + IMFM321+326.9
CAP STOCK MOTOR VEH (EX PARTS & ACC) INDST - M & E & CIOCE	IKMFM323.4	= IKMFM323.4(-1) * (1 - 2 * IEDMFM323.4) + IMFM323.4
CAP STOCK MOTOR VEH PARTS & ACC INDST - M & E & CIOCE	IKMFM325	= IKMFM325(-1) * (1 - 2 * IEDMFM325) + IMFM325
CAP STOCK TRANSPORT EQUIP INDST - M & E	IKMFM321.9	= IKMFM321+326.9 + IKMFM323.4 + IKMFM325
CAP STOCK ELECTRICAL PROD INDST - M & E & CIOCE	IKMFM331.9	= IKMFM331.9(-1) * (1 - 2 * IEDMFM331.9) + IMFM331.9
CAP STOCK NONMETAL MIN PROD INDST - M & E & CIOCE	IKMFM351.9	= IKMFM351.9(-1) * (1 - 2 * IEDMFM351.9) + IMFM351.9
CAP STOCK MANUF DURABLE TOTAL - M & E	IKMFM	= IKMFM251.9 + IKMFM261.8 + IKMFM291.8 + IKMFM301.9 + IKMFM311.8 + IKMFM321.9 + IKMFM331.9 + IKMFM351.9
CAP STOCK FOOD & BEVERAGE INDST - M & E & CIOCE	IKMFM101.9	= IKMFM101.9(-1) * (1 - 2 * IEDMFM101.9) + IMFM101.9
CAP STOCK TOBACCO PROD INDST - M & E & CIOCE	IKMFM151.3	= IKMFM151.3(-1) * (1 - 2 * IEDMFM151.3) + IMFM151.3
CAP STOCK RUBBER & PLASTIC PROD INDST - M & E & CIOCE	IKMFM162.5	= IKMFM162.5(-1) * (1 - 2 * IEDMFM162.5) + IMFM162.5
CAP STOCK LEATHER INDST - M & E & CIOCE	IKMFM172.9	= IKMFM172.9(-1) * (1 - 2 * IEDMFM172.9) + IMFM172.9
CAP STOCK TEXTILE INDST - M & E & CIOCE	IKMFM181.9	= IKMFM181.9(-1) * (1 - 2 * IEDMFM181.9) + IMFM181.9
CAP STOCK KNITTING & CLOTHING INDST - M & E & CIOCE	IKMFM231.49	= IKMFM231.49(-1) * (1 - 2 * IEDMFM231.49) + IMFM231.49
CAP STOCK PAPER & ALLIED INDST - M & E & CIOCE	IKMFM271.4	= IKMFM271.4(-1) * (1 - 2 * IEDMFM271.4) + IMFM271.4

CAP STOCK PRINT, PUB & ALLIED INDST - M & E & CICOE	IKMFNDM286.9	= IKMFNDM286.9(-1) * (1 - 2 * IEDMFNDM286.9)
CAP STOCK PET & COAL PROD INDST - M & E & CICOE	IKMFNDM365.9	= IKMFNDM365.9(-1) * (1 - 2 * IEDMFNDM365.9)
CAP STOCK CHEM & CHEM PROD INDST - M & E & CICOE	IKMFNDM372.9	= IKMFNDM372.9(-1) * (1 - 2 * IEDMFNDM372.9)
CAP STOCK MISC MANUF INDST - M & E & CICOE	IKMFNDM391.9	= IKMFNDM391.9(-1) * (1 - 2 * IEDMFNDM391.9)
CAP STOCK MANUF NONDURABLE TOTAL - M & E	IKMFNDM	= IKMFNDM101.9 + IKMFNDM151.3 + IKMFNDM162.5
CAP STOCK MANUF TOTAL - M & E	IKCNSTM	= IKCNSTM(-1) * (1 - 2 * IEDCNSTM) + ICNSTM
CAP STOCK CONSTRUCTION INDST - M & E	IKTRSPM501.27	= IKTRSPM501.27(-1) * (1 - 2 * IEDTRSPM501.27)
CAP STOCK TRANSPORT INDST - M & E & CICOE	IKCOMMM543.8	= IKCOMMM543.8(-1) * (1 - 2 * IEDCOMMM543.8)
CAP STOCK COMMUNICATION INDST - M & E	IKFIREM701.37	= IKFIREM701.37(-1) * (1 - 2 * IEDFIREM701.37)
CAP STOCK FIN INS & REAL ESTATE INDST - M & E	IKUTILM572.9	= IKUTILM572.9(-1) * (1 - 2 * IEDUTILM572.9)
CAP STOCK UTILITY INDST - M & E & CICOE	IKTRADM602.99	= IKTRADM602.99(-1) * (1 - 2 * IEDMTRADM602.99)
CAP STOCK WHOLESALE & RETAIL TRADE INDST - M & E & CICOE	IKSVCM	= IKSVCM(-1) * (1 - 2 * IEDSVCM) + ISVCM
CAP STOCK COMMER SRVS INDST - M & E	IKSVNCM	= IKSVNCM(-1) * (1 - 2 * IEDSVNCM) + ISVNCM
CAP STOCK OTHER NONCOMMER SRVS INDST - M & E	IKSVHGEDM806	= IKSVHGEDM806(-1) * (1 - 2 * IEDSVHGEDM806)
CAP STOCK COLLEGE & UNIV EDUC - M & E		+ ISVHGEDM806

VARIABLES DETERMINED OUTSIDE THE BUSINESS CAPITAL STOCK CONSTRUCTION BLOCK

INV AGRIC FISH & TRAP INDST - BLDG & ENG CONST	IAGFTC
INV CONST INDST - BLDG & ENG CONST	ICNSTC
INV COMMUNICATION INDST - BLDG & ENG CONST	ICOMMC543.8
INV FIN INS & REAL ESTATE INDST - BLDG & ENG CONST	IFIREC701.37
INV FORESTRY INDST - BLDG & ENG CONST	IFSTYC31.9
INV WOOD INDST - BLDG & ENG CONST	IMFDC251.9
INV FURNITURE & FIXTURE INDST - BLDG & ENG CONST	IMFDC261.8
INV IRON & STEEL INDST - BLDG CONST	IMFDC291.4
INV NONFERROUS METALS - BLDG & ENG CONST	IMFDC295.8
INV METAL FAB INDST - BLDG & ENG CONST	IMFDC301.9
INV MACH (EXCL ELEC MACH) INDST - BLDG & ENG CONST	IMFDC311.8
INV NON AUTO TRANSPORT EQUIP - BLDG & ENG CONST	IMFDC321+326.9
INV MOTOR VEHICLE (EX PARTS & ACC) - BLDG CONST	IMFDC323.4
INV MOTOR VEHICLE PARTS & ACC - BLDG CONST	IMFDC325
INV ELECTRICAL PROD INDST - BLDG & ENG CONST	IMFDC331.9
INV NON METAL MINING PROD INDST - BLDG & ENG CONST	IMFDC351.9
INV FOOD & BEVERAGE INDST - BLDG & ENG CONST	IMFDC101.9
INV TOBACCO PROD INDST - BLDG & ENG CONST	IMFDC151.3
INV RUBBER & PLASTIC PROD INDST - BLDG & ENG CONST	IMFDC162.5
INV LEATHER INDST - BLDG & ENG CONST	IMFDC172.9
INV TEXTILE INDST - BLDG & ENG CONST	IMFDC181.9
INV KNITTING & CLOTHING INDST - BLDG CONST	IMFDC231.49
INV PAPER & ALLIED INDST - BLDG CONST	IMFDC271.4
INV PRINT, PUBLISH & ALLIED INDST - BLDG & ENG CONST	IMFDC286.9
INV PET & COAL PROD INDST - BLDG & ENG CONST	IMFDC365.9
INV CHEM & CHEM PROD INDST - BLDG & ENG CONST	IMFDC372.9
INV MISC MANUF INDST - BLDG & ENG CONST	IMFDC391.9
INV COAL MINING - BLDG & ENG CONST	IMICLC61
INV CRD PET NATL GAS & SRVS INC TO MIN IND - B & E CONST	IMIPG64+96.9
INV METAL MINING INDST - BLDG & ENG CONST	IMIMMC51.9
INV NONMETAL MINING (EX COAL) B & E CONST	IMINMC71.87
INV COMMER SRVS INDST - BLDG CONST	ISVCMC
INV COLLEGE & UNIV EDUC - BLDG CONST	ISVHGDC806
INV OTHER NONCOMMER SRVS INDST - BLDG CONST	ISVNCC
INV WHOLESALE & RETAIL TRADE INDST - BLDG CONST	ITRADC602.99
INV TRANSPORT INDST - BLDG & ENG CONST	ITRSPC501.27
INV UTILITY INDST - BLDG CONST	IUTILC572.9

VARIABLES EXOGENOUS TO THE BUSINESS CAPITAL STOCK CONSTRUCTION BLOCK

ECON DEPR AGRIC FISH & TRAP INDST - BLDG & ENG CONST	E	IEDAGFTC
ECON DEPR CONSTRUCTION INDST - BLDG & ENG CONST	E	IEDCNSTC
ECON DEPR COMMUNICATION INDST - BLDG & ENG CONST	E	IEDCOMMC543.8
ECON DEPR FIN INS & REAL ESTATE INDST - BLDG CONST	E	IEDFIREC701.37
ECON DEPR FORESTRY INDST - BLDG & ENG CONST	E	IEDFSTYC31.9
ECON DEPR WOOD INDST - BLDG & ENG CONST	E	IEDMFDC251.9

ECON DEPR FURNITURE & FIXTURE INDST - BLDG CONST	E	IEDMFDC261.8
ECON DEPR IRON & STEEL INDST - BLDG CONST	E	IEDMFDC291.4
ECON DEPR NONFERROUS METALS - BLDG & ENG CONST	E	IEDMFDC295.8
ECON DEPR METAL FAB INDST - BLDG & ENG CONST	E	IEDMFDC301.9
ECON DEPR MACH (EX ELEC MACH) - BLDG & ENG CONST	E	IEDMFDC311.8
ECON DEPR NONAUTO TRANSPORT EQUIP - BLDG & ENG CONST	E	IEDMFDC321+26.9
ECON DEPR MOTOR VEHICLE (EX PARTS & ACC) - BLDG & ENG CONST	E	IEDMFDC323.4
ECON DEPR MOTOR VEHICLE PARTS & ACC - BLDG & ENG CONST	E	IEDMFDC325
ECON DEPR ELECTRICAL PROD INDST - BLDG & ENG CONST	E	IEDMFDC331.9
ECON DEPR NON METAL MIN PROD INDST - BLDG & ENG CONST	E	IEDMFDC351.9
ECON DEPR FOOD & BEVERAGES INDST - BLDG & ENG CONST	E	IEDMFDC101.9
ECON DEPR TOBACCO PROD INDST - BLDG & ENG CONST	E	IEDMFDC151.3
ECON DEPR RUBBER & PLASTIC PROD INDST - BLDG & ENG CONST	E	IEDMFDC162.5
ECON DEPR LEATHER INDST - BLDG & ENG CONST	E	IEDMFDC172.9
ECON DEPR TEXTILE INDST - BLDG & ENG CONST	E	IEDMFDC181.9
ECON DEPR KNITTING & CLOTHING INDST - BLDG CONST	E	IEDMFDC231.49
ECON DEPR PAPER & ALLIED INDST - BLDG CONST	E	IEDMFDC271.4
ECON DEPR PRINT, PUB & ALLIED INDST - BLDG & ENG CONST	E	IEDMFDC286.9
ECON DEPR PET & COAL PROD INDST - BLDG & ENG CONST	E	IEDMFDC365.9
ECON DEPR CHEM & CHEM PROD INDST - BLDG & ENG CONST	E	IEDMFDC372.9
ECON DEPR MISC MANUF INDST - BLDG & ENG CONST	E	IEDMFDC391.9
ECON DEPR COAL MINING - BLDG & ENG CONST	E	IEDMICLC61
ECON DEPR CRD PET NATL GAS & SRVS INC TO MIN IND - B&E CONST	E	IEDMIPC64+96.9
ECON DEPR METAL MINING INDST - BLDG & ENG CONST	E	IEDMIMMC51.9
ECON DEPR NONMETAL MINING (EX COAL) B & E CONST	E	IEDMINMC71.87
ECON DEPR COMMER SRVS INDST - BLDG CONST	E	IEDSVCMC
ECON DEPR COLLEGE & UNIV INDST - BLDG CONST	E	IEDSVHGDC806
ECON DEPR OTHER NONCOMMER SRVS INDST - BLDG CONST	E	IEDSVNCC
ECON DEPR WHOLESALE & RETAIL TRADE INDST - BLDG CONST	E	IEDTRADC602.99
ECON DEPR TRANSPORT INDST - BLDG & ENG CONST	E	IEDTRSPC501.27
ECON DEPR UTILITY INDST - BLDG CONST	E	IEDUTILC572.9

VARIABLES ENDOGENOUS TO THE BUSINESS CAPITAL STOCK CONSTRUCTION BLOCK (IDENTITIES)

CAP STOCK AGRIC FISH & TRAP INDST - BLDG & ENG CONST	IKAGFTC	= IKAGFTC(-1) * (1 - 2 * IEDAGFTC) + IAGFTC
CAP STOCK FORESTRY INDST - BLDG & ENG CONST	IKFSTYC31.9	= IKFSTYC31.9(-1) * (1 - 2 * IEDFSTYC31.9) + IFSTYC31.9
CAP STOCK COAL MINING - BLDG & ENG CONST	IKMICLC61	= IKMICLC61(-1) * (1 - 2 * IEDMICLC61) + IMICLC61
CAP STOCK CRD PET NATL GAS & SRVS INC TO MIN IND - B&E CONST	IKMIPC64+96.9	= IKMIPC64+96.9(-1) * (1 - 2 * IEDMIPC64+96.9) + IMIPC64+96.9
CAP STOCK METAL MINING INDST - BLDG & ENG CONST	IKMINMWC51.9	= IKMINMWC51.9(-1) * (1 - 2 * IEDMINMWC51.9) + IMINMWC51.9
CAP STOCK NONMETAL MINING (EX COAL) - BLDG & ENG CONST	IKMINMWC71.87	= IKMINMWC71.87(-1) * (1 - 2 * IEDMINMWC71.87) + IMINMWC71.87
CAP STOCK MINING TOTAL - BLDG & ENG CONST	IKMIC	= IKMICLC61 + IKMIPC64+96.9 + IKMINMWC51.9 + IKMINMWC71.87
CAP STOCK WOOD INDST - BLDG & ENG CONST	IKMFDC251.9	= IKMFDC251.9(-1) * (1 - 2 * IEDMFDC251.9) + IMFDC251.9
CAP STOCK FURNITURE & FIXTURE INDST - BLDG CONST	IKMFDC261.8	= IKMFDC261.8(-1) * (1 - 2 * IEDMFDC261.8) + IMFDC261.8
CAP STOCK IRON & STEEL INDST - BLDG CONST	IKMFDC291.4	= IKMFDC291.4(-1) * (1 - 2 * IEDMFDC291.4) + IMFDC291.4
CAP STOCK NONFERROUS METALS - BLDG & ENG CONST	IKMFDC295.8	= IKMFDC295.8(-1) * (1 - 2 * IEDMFDC295.8) + IMFDC295.8
CAP STOCK PRIMARY METAL INDST - BLDG & ENG CONST	IKMFDC291.8	= IKMFDC291.8 + IKMFDC295.8
CAP STOCK METAL FAB INDST - BLDG & ENG CONST	IKMFDC301.9	= IKMFDC301.9(-1) * (1 - 2 * IEDMFDC301.9) + IMFDC301.9
CAP STOCK MACH (EXCL ELEC MACH) INDST - BLDG & ENG CONST	IKMFDC311.8	= IKMFDC311.8(-1) * (1 - 2 * IEDMFDC311.8) + IMFDC311.8
CAP STOCK NON AUTO TRANSPORT EQUIP - BLDG & ENG CONST	IKMFDC321+326.9	= IKMFDC321+326.9(-1) * (1 - 2 * IEDMFDC321+326.9) + IMFDC321+326.9
CAP STOCK MOTOR VEHICLES (EXCL PARTS) - BLDG CONST	IKMFDC323.4	= IKMFDC323.4(-1) * (1 - 2 * IEDMFDC323.4) + IMFDC323.4
CAP STOCK MOTOR VEHICLE PARTS & ACC - BLDG & ENG CONST	IKMFDC325	= IKMFDC325(-1) * (1 - 2 * IEDMFDC325) + IMFDC325
CAP STOCK TRANSPORT EQUIP INDST - BLDG & ENG CONST	IKMFDC321.9	= IKMFDC321+326.9 + IKMFDC323.4 + IKMFDC325
CAP STOCK ELECTRICAL PROD INDST - BLDG & ENG CONST	IKMFDC331.9	= IKMFDC331.9(-1) * (1 - 2 * IEDMFDC331.9) + IMFDC331.9
CAP STOCK NONMETAL MINING PROD INDST - BLDG & ENG CONST	IKMFDC351.9	= IKMFDC351.9(-1) * (1 - 2 * IEDMFDC351.9) + IMFDC351.9
CAP STOCK MANUF DURABLE TOTAL - BLDG & ENG CONST	IKMFDC	= IKMFDC351.9 + IKMFDC261.8 + IKMFDC291.8 + IKMFDC301.9 + IKMFDC311.8 + IKMFDC321.9 + IKMFDC331.9 + IKMFDC351.9
CAP STOCK FOOD & BEVERAGES INDST - BLDG & ENG CONST	IKMFNDCL01.9	= IKMFNDCL01.9(-1) * (1 - 2 * IEDMFNDCL01.9) + IMFNDCL01.9
CAP STOCK TOBACCO PROD INDST - BLDG & ENG CONST	IKMFNDCL51.3	= IKMFNDCL51.3(-1) * (1 - 2 * IEDMFNDCL51.3) + IMFNDCL51.3
CAP STOCK RUBBER & PLASTIC PROD INDST - BLDG & ENG CONST	IKMFNDCL62.5	= IKMFNDCL62.5(-1) * (1 - 2 * IEDMFNDCL62.5) + IMFNDCL62.5
CAP STOCK LEATHER INDST - BLDG & ENG CONST	IKMFNDCL172.9	= IKMFNDCL172.9(-1) * (1 - 2 * IEDMFNDCL172.9) + IMFNDCL172.9
CAP STOCK TEXTILE INDST - BLDG & ENG CONST	IKMFNDCL181.9	= IKMFNDCL181.9(-1) * (1 - 2 * IEDMFNDCL181.9) + IMFNDCL181.9
CAP STOCK KNITTING & CLOTHING INDST - BLDG CONST	IKMFNDCC231.49	= IKMFNDCC231.49(-1) * (1 - 2 * IEDMFNDCC231.49) + IMFNDCC231.49
CAP STOCK PAPER & ALLIED INDST - BLDG CONST	IKMFNDCC271.4	= IKMFNDCC271.4(-1) * (1 - 2 * IEDMFNDCC271.4) + IMFNDCC271.4
CAP STOCK PRINT, PUB & ALLIED INDST - BLDG & ENG CONST	IKMFNDCC286.9	= IKMFNDCC286.9(-1) * (1 - 2 * IEDMFNDCC286.9) + IMFNDCC286.9

CAP STOCK PET & COAL PROD INDST - BLDG & ENG CONST	IKMFND365.9	= IKMFND365.9(-1) * (1 - 2 * IEDMFND365.9)
CAP STOCK CHEM & CHEM PROD INDST - BLDG & ENG CONST	IKMFND372.9	= IKMFND372.9(-1) * (1 - 2 * IEDMFND372.9)
CAP STOCK MISC MANUF INDST - BLDG & ENG CONST	IKMFND391.9	= IKMFND391.9(-1) * (1 - 2 * IEDMFND391.9)
CAP STOCK MANUF NONDURABLE TOTAL - BLDG & ENG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK MANUF TOTAL - BLDG & ENG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK CONSTRUCTION INDST - BLDG & ENG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK TRANSPORT INDST - BLDG & ENG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK COMMUNICATION INDST - BLDG & ENG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK FIN INS & REAL ESTATE INDST - BLDG & ENG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK UTILITY INDST - BLDG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK WHOLESALE & RETAIL TRADE INDST - BLDG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK COMMER SRVS INDST - BLDG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK OTHER NONCOMMER SRVS INDST - BLDG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5
CAP STOCK COLLEGE & UNIV EDUC - BLDG CONST	IKMFND	= IKMFND391.9 + IKMFND391.3 + IKMFND391.5

GOVERNMENT CAPITAL STOCK BLOCK

VARIABLES DETERMINED OUTSIDE THE GOVERNMENT CAPITAL STOCK BLOCK

FED GOVT EXPND - INVST BLDGS OTHER THAN SCHOOLS GEF.INV.BOS
 FED GOVT EXPND - INVST HIGHWAY CONSTRUCTION GEF.INV.HWY
 FED GOVT EXPND - INVST MACH & EQUIP GEF.INV.ME
 FED GOVT EXPND - INVST OTHER ENGINEERING CONSTRUCTION GEF.INV.OEN
 FED GOVT EXPND - INVST RESIDENTIAL CONSTRUCTION GEF.INV.RES
 HOSP GOVT EXPND - INVST MACH & EQUIP GEH.INV.ME
 HOSP GOVT EXPND - INVST NONRES CONSTRUCTION GEH.INV.NR
 LOCAL GOVT EXPND - INVST BLDGS OTHER THAN SCHOOLS GEL.INV.HWY
 LOCAL GOVT EXPND - INVST HIGHWAY CONSTRUCTION GEL.INV.ME
 LOCAL GOVT EXPND - INVST MACH & EQUIP GEL.INV.OEN
 LOCAL GOVT EXPND - INVST OTHER ENGINEERING CONST GEL.INV.SCH
 LOCAL GOVT EXPND - INVST SCHOOLS BLDG CONST GEP.INV.BOS
 PROV GOVT EXPND - INVST BLDGS OTHER THAN SCHOOLS GEP.INV.HWY
 PROV GOVT EXPND - INVST HIGHWAY CONST GEP.INV.ME
 PROV GOVT EXPND - INVST MACH & EQUIP GEP.INV.OEN
 PROV GOVT EXPND - INVST OTHER ENGINEERING CONST GEP.INV.SCH

VARIABLES EXOGENOUS TO THE GOVERNMENT CAPITAL STOCK BLOCK

FED GOVT ECON DEPR - BLDGS OTHER THAN SCHOOLS GEF.IED.BOS
 FED GOVT ECON DEPR - HIGHWAY CONSTRUCTION GEF.IED.HWY
 FED GOVT ECON DEPR - MACH & EQUIP GEF.IED.ME
 FED GOVT ECON DEPR - OTHER ENGINEERING CONST GEF.IED.OEN
 FED GOVT ECON DEPR - RESIDENTIAL GEF.IED.RES
 HOSP GOVT ECON DEPR - MACH & EQUIP GEH.IED.ME
 HOSP GOVT ECON DEPR - NONRES CONST GEH.IED.NR
 LOCAL GOVT ECON DEPR - BLDGS OTHER THAN SCHOOLS GEL.IED.BOS
 LOCAL GOVT ECON DEPR - HIGHWAY CONST GEL.IED.HWY
 LOCAL GOVT ECON DEPR - MACH & EQUIP GEL.IED.ME
 LOCAL GOVT ECON DEPR - OTHER ENGINEERING CONST GEL.IED.OEN
 LOCAL GOVT ECON DEPR - SCHOOLS BLDG CONST GEL.IED.SCH
 PROV GOVT ECON DEPR - BLDGS OTHER THAN SCHOOLS GEP.IED.BOS
 PROV GOVT ECON DEPR - HIGHWAY CONST GEP.IED.HWY
 PROV GOVT ECON DEPR - MACH & EQUIP GEP.IED.ME
 PROV GOVT ECON DEPR - OTHER ENGINEERING CONST GEP.IED.OEN
 PROV GOVT ECON DEPR - SCHOOLS BLDG CONST GEP.IED.SCH

FED GOVT CAP STOCK - BUILDINGS OTHER THAN SCHOOLS	GEF.K.BOS	= GEF.K.BOS(-1) * (1 - 2 * GEF.IED.BOS)
FED GOVT CAP STOCK - HIGHWAY CONSTRUCTION	GEF.K.HWY	= GEF.K.HWY(-1) * (1 - 2 * GEF.IED.HWY)
FED GOVT CAP STOCK - OTHER ENGINEERING CONSTRUCTION	GEF.K.OEN	= GEF.K.OEN(-1) * (1 - 2 * GEF.IED.OEN)
FED GOVT CAP STOCK - NONRESIDENTIAL CONSTRUCTION	GEF.K.NR	= GEF.K.BOS + GEF.K.HWY + GEF.K.OEN
FED GOVT CAP STOCK - RESIDENTIAL CONSTRUCTION	GEF.K.RES	= GEF.K.RES(-1) * (1 - 2 * GEF.IED.RES)
FED GOVT CAP STOCK - MACHINERY & EQUIPMENT	GEF.K.ME	= GEF.K.ME(-1) * (1 - 2 * GEF.IED.ME)
FED GOVT CAP STOCK - TOTAL	GEF.K.CAPF	= GEF.K.RES + GEF.K.NR + GEF.K.ME
PROV GOVT CAP STOCK - SCHOOLS BLDG CONSTRUCTION	GEF.K.SCH	= GEF.K.SCH(-1) * (1 - 2 * GEF.IED.SCH)
PROV GOVT CAP STOCK - BLDGS OTHER THAN SCHOOLS	GEF.K.BOS	= GEF.K.BOS(-1) * (1 - 2 * GEF.IED.BOS)
PROV GOVT CAP STOCK - HIGHWAY CONSTRUCTION	GEF.K.HWY	= GEF.K.HWY(-1) * (1 - 2 * GEF.IED.HWY)
PROV GOVT CAP STOCK - OTHER ENGINEERING CONSTRUCTION	GEF.K.OEN	= GEF.K.OEN(-1) * (1 - 2 * GEF.IED.OEN)
PROV GOVT CAP STOCK - NONRESIDENTIAL CONSTRUCTION	GEF.K.NR	= GEF.K.SCH + GEF.K.BOS + GEF.K.HWY
PROV GOVT CAP STOCK - MACHINERY & EQUIPMENT	GEF.K.ME	= GEF.K.ME(-1) * (1 - 2 * GEF.IED.ME)
PROV GOVT CAP STOCK - TOTAL	GEF.K	= GEF.K.ME + GEF.K.NR
LOCAL GOVT CAP STOCK - SCHOOLS BLDG CONSTRUCTION	GEL.K.SCH	= GEL.K.SCH(-1) * (1 - 2 * GEF.IED.SCH)
LOCAL GOVT CAP STOCK - BLDG OTHER THAN SCHOOLS	GEL.K.BOS	= GEL.K.BOS(-1) * (1 - 2 * GEF.IED.BOS)
LOCAL GOVT CAP STOCK - HIGHWAY CONSTRUCTION	GEL.K.HWY	= GEL.K.HWY(-1) * (1 - 2 * GEF.IED.HWY)
LOCAL GOVT CAP STOCK - OTHER ENGINEERING CONST	GEL.K.OEN	= GEL.K.OEN(-1) * (1 - 2 * GEF.IED.OEN)
LOCAL GOVT CAP STOCK - NONRESIDENTIAL CONST	GEL.K.NR	= GEL.K.SCH + GEL.K.BOS + GEL.K.HWY
LOCAL GOVT CAP STOCK - MACHINERY & EQUIPMENT	GEL.K.ME	= GEL.K.ME(-1) * (1 - 2 * GEF.IED.ME)
LOCAL GOVT CAP STOCK - TOTAL	GEL.K	= GEL.K.ME + GEL.K.NR
HOSP GOVT CAP STOCK - NONRESIDENTIAL CONSTRUCTION	GEH.K.NR	= GEH.K.NR(-1) * (1 - 2 * GEF.IED.NR)
HOSP GOVT CAP STOCK - MACHINERY & EQUIPMENT	GEH.K.ME	= GEH.K.ME(-1) * (1 - 2 * GEF.IED.ME)
HOSP GOVT CAP STOCK - TOTAL	GEH.K	= GEH.K.ME + GEH.K.NR
GOVT CAP STOCK - SCHOOLS BLDG CONSTRUCTION	GE.K.SCH	= GEF.K.SCH + GEF.K.BOS + GEF.K.HWY
GOVT CAP STOCK - BLDGS OTHER THAN SCHOOLS	GE.K.BOS	= GEF.K.BOS + GEF.K.HWY + GEF.K.OEN
GOVT CAP STOCK - OTHER ENGINEERING CONSTRUCTION	GE.K.OEN	= GEF.K.OEN + GEF.K.HWY + GEF.K.HWY
GOVT CAP STOCK - HIGHWAY CONSTRUCTION	GE.K.HWY	= GEF.K.HWY + GEF.K.HWY + GEF.K.HWY
GOVT CAP STOCK - NONRESIDENTIAL CONSTRUCTION	GE.K.NR	= GEF.K.SCH + GEF.K.BOS + GEF.K.HWY
GOVT CAP STOCK - RESIDENTIAL CONSTRUCTION	GE.K.RES	= GEF.K.RES + GEF.K.ME + GEF.K.ME
GOVT CAP STOCK - MACHINERY & EQUIPMENT	GE.K.ME	= GEF.K.ME + GEF.K.ME + GEF.K.ME
GOVT CAP STOCK - TOTAL	GE.K.CAPF	= GEF.K.RES + GEF.K.ME + GEF.K.ME

MANHOURS, HOURS, AND EMPLOYMENT
AT THE INDUSTRY LEVEL

The detail available in CANDIDE Model 2.0 for manhours, hours, and employment follows a breakdown similar to the disaggregation level for industry outputs. The detail is recorded in Table 1. However, there are three areas where certain aggregations occur due to data limitations. Industries 30 and 31 are combined (communication and transportation), industries 37 through 40 are combined (the service sector) and industries 41 through 44 are combined (public administration). The manhour equations and the average weekly hours equations are stochastic, except in the case of public administration. Here, the employment equation is stochastic and the average weekly hours equation is stochastic. Consequently, for public administration, manhours is derived from an identity. For the remaining equations, exclusive of public administration, employment is derived through an identity using average weekly hours and total manhours worked. The production functions in the system can then be identified as the stochastic equations which explain manhours. Once manhours, average weekly hours, and total employment are determined, this information is combined with labour force estimates from the demographic block to determine the unemployment rate.

The average weekly hours equations in the model depend upon the industry specific after tax real wage and cyclical variables (the unemployment rate). In some instances, trends are introduced. The manhours equations are the production functions in the system. The production functions are either (1) renormalized Cobb-Douglas production functions where manhours are influenced by output, capital stock, and an adjustment process or (2) labour demand functions (first order equilibrium conditions derived from a constant elasticity of substitution production functions) where the right hand side variables are industry specific output and the industry specific real wage. In either case, both allow for substitution between labour and capital and both are influenced by output.

In those cases where we use a renormalized Cobb-Douglas production function to explain manhours, we, in estimating the equations, constrain the coefficients to those implied from factor share data. In doing this, we obtain better estimates of the long run elasticities. To account for short run phenomena such as labour hoarding, we introduce an adjustment process. This accounts for disequilibrium effects. This is true for both the renormalized production functions and the labour demand functions. Allowance also is made in the renormalized

Cobb-Douglas production functions and in the labour demand functions, derived from the constant elasticities of substitution production functions, for both neutral and non-neutral technical progress.

The output of the manhours, hours, and employment block is twofold. First, we obtain employment estimates by industry which, when aggregated and combined with information from the demographic block, provide an estimate of the unemployment rate. This block also gives estimates of manhours by industry which, when combined with estimates of hourly compensation by industry, produce an estimate of wagebill by industry. Given industry specific estimates of output, we then have on hand unit labour cost by industry. Industry specific unit labour cost has a major influence on industry pricing decisions. Industry specific wagebill, after aggregation, will provide an estimate of National Accounts wagebill which is the largest component of personal income. Furthermore, information on manhours and employment, when combined with industry production, yield productivity levels by industry. These selectively influence industry price formation.

At various points in our discussion, we indicate that there are three ways of looking at Gross National Expenditures (income side, product side, expenditure side).

It should now be clear how the expenditure side influences the income side of the model. The major route to the income side in CANDIDE Model 2.0 is from expenditure, to production, to manhour demand, which in combination with wage rates produces wagebill which is the largest component of personal income.

VARIABLES DETERMINED OUTSIDE THE MANHOUR BLOCK

CONSUMER PRICE INDEX	
AVE WKLY HRS - PUBLIC ADMINISTRATION (INCL.DEF.)	CPI
CAP STOCK FIN INS & REAL ESTATE INDST - BLDG CONST	HGPA
CAP STOCK FIN INS & REAL ESTATE INDST - MACH & EQUIP	IKFIREC701.37
CAP STOCK FURNITURE & FIXTURE INDST - BLDG CONST	IKFIREM701.37
CAP STOCK IRON & STEEL INDST - BLDG CONST	IKMEDC261.8
CAP STOCK NONFERROUS METALS - BLDG & ENG CONST	IKMEDC291.4
CAP STOCK MACH (EXCL ELEC MACH) INDST - BLDG & ENG CONST	IKMEDC295.8
CAP STOCK NON AUTO TRANSPORT EQUIP - M&E & CIOCE	IKMEDC311.8
CAP STOCK MOTOR VEHICLES (EXCL PARTS) - BLDG CONST	IKMEDC321+326.9
CAP STOCK MOTOR VEHICLE PARTS & ACC - BLDG & ENG CONST	IKMEDC323.4
CAP STOCK ELECTRICAL PROD INDST - BLDG & ENG CONST	IKMEDC331.9
CAP STOCK FURNITURE & FIXTURE INDST - M&E & CIOCE	IKMEDM261.8
CAP STOCK IRON & STEEL INDST - M&E & CIOCE	IKMEDM291.4
CAP STOCK NONFERROUS METALS - M&E & CIOCE	IKMEDM295.8
CAP STOCK MACH (EX ELEC MACH) INDST - M&E & CIOCE	IKMEDM311.8
CAP STOCK NON AUTO TRANSPORT EQUIP - M&E & CIOCE	IKMEDM321+326.9
CAP STOCK MOTOR VEH (EX PRTS&ACC) INDST - M&E & CIOCE	IKMEDM323.4
CAP STOCK MOTOR VEH PARTS & ACC INDST - M&E & CIOCE	IKMEDM325
CAP STOCK ELECTRICAL PROD INDST - M&E & CIOCE	IKMEDM331.9
CAP STOCK FOOD & BEV INDST - BLDG & ENG CONST	IKMENDC101.9
CAP STOCK TOBACCO PROD INDST - BLDG & ENG CONST	IKMENDC151.3
CAP STOCK RUBBER & PLASTIC PROD INDST - BLDG & ENG CONST	IKMENDC162.5
CAP STOCK PRINT, PUB & ALLIED INDST - BLDG & ENG CONST	IKMENDC286.9
CAP STOCK MISC MANUF INDST - BLDG & ENG CONST	IKMENDC391.9
CAP STOCK FOOD & BEV INDST - M&E & CIOCE	IKMENDM101.9
CAP STOCK TOBACCO PROD INDST - M&E & CIOCE	IKMENDM151.3
CAP STOCK RUBBER & PLASTIC PROD INDST - M&E & CIOCE	IKMENDM162.5
CAP STOCK PRINT, PUBLISH & ALLIED INDST - M&E & CIOCE	IKMENDM286.9
CAP STOCK MISC MANUF INDST - M&E & CIOCE	IKMENDM391.9
CAP STOCK COAL MINING - BLDG & ENG CONST	IKMICLC61
CAP STOCK COAL MINING - M&E & CIOCE	IKMICLM61
CAP STOCK METAL MINING INDST - BLDG & ENG CONST	IKMIMM51.9
CAP STOCK METAL MINING INDST - MACH & EQUIP	IKMIMM51.9
EMPLOYMENT - PUBLIC ADMINISTRATION (INCL DEF)	NGPA
DUMMY VARIABLE - FINAL DEMAND PRICE SECTOR	TIME
AVE HRLY EARNINGS - AGRIC, FISH & TRAP INDST	WAGFTL.21+41.7
WAGEBILL - FIN INS & REAL ESTATE INDST	WBFIREF701.37
AVE HRLY EARN - CONSTRUCTION	WCNST
AVE HRLY EARN - COMMUNICATION & TRANSPORTATION	WCOMMH+TRSP
AVE HRLY EARN - FIN INS & REAL ESTATE INDST	WEIRE701.37
AVE HRLY EARN - FORESTRY INDST	WFSTY31.9
AVE HRLY EARN - WOOD INDUSTRIES	WMFDR251.59
AVE HRLY EARN - METAL FABRICATING INDST	WMFDR301.09
AVE HRLY EARN - NON METALLIC MINERAL PROD INDST	WMFDR351.59
AVE HRLY EARN - LEATHER INDUSTRIES	WMEND172.79
AVE HRLY EARN - TEXTILE INDUSTRIES	WMEND181.89
AVG HRLY EARN - KNITTING & CLOTHING INDST	WMEND231.49
AVE HRLY EARN - PAPER & ALLIED INDUSTRIES	WMFND271.74
AVE HRLY EARN - PETROLEUM & COAL PROD INDST	WMFND365.69
AVE HRLY EARN - CHEMICAL & CHEMICAL PROD INDST	WMFND372.79
AVE HRLY EARN - CRD PET. NATL GAS & SRVS INCID TO MIN	WMICP64+96.9

AVE HRLY EARNS - NON METAL MINING (EXCEPT COAL) INDST
 AVE HRLY EARNS - WHOLESALE & RETAIL TRADE INDST
 AVE HRLY EARNS - UTILITY INDST
 RDP, AGRICULTURE, FISH & TRAP INDST
 RDP, CONSTRUCTION INDUSTRIES
 RDP, COMMUNICATION INDST
 RDP, FINANCE, INSURANCE & REAL ESTATE INDST
 RDP, FORESTRY INDST
 RDP, HOSPITALS
 RDP, PRIM, SEC & NONUNIV POST SEC ED
 RDP, WOOD INDUSTRIES
 RDP, FURNITURE & FIXTURE INDST
 RDP, IRON & STEEL INDUSTRIES
 RDP, NONFERROUS METAL INDUSTRIES
 RDP, METAL FABRICATING INDUSTRIES
 RDP, MACHINERY (EX ELEC MACH) INDST
 RDP, NON AUTO TRANSPORT EQUIP INDST
 RDP, MOTOR VEHICLE INDST (EX PARTS & ACC)
 RDP, MOTOR VEHICLE PARTS & ACC INDST
 RDP, ELECTRICAL PRODUCTS INDST
 RDP, NON METALLIC MINERAL PRODUCTS INDST
 RDP, FOOD & BEVERAGE INDST
 RDP, TOBACCO PRODUCTS INDST
 RDP, RUBBER & PLASTIC PROD INDST
 RDP, LEATHER INDUSTRIES
 RDP, TEXTILE INDUSTRIES
 RDP, KNITTING MILLS & CLOTHING INDST
 RDP, PAPER AND ALLIED INDUSTRIES
 RDP, PRINT, PUBLISHING & ALLIED INDST
 RDP, PETROLEUM & COAL PROD INDST
 RDP, CHEMICAL & CHEMICAL PROD INDST
 RDP, MISCELLANEOUS MANUFACTURING INDST
 RDP, COAL MINING INDUSTRIES
 RDP, CRD PET, NATL GAS & SRVS INCID TO MINING INDST
 RDP, METAL MINING INDST
 RDP, NON METAL MINING (EX COAL) INDST
 RDP, COMMERCIAL SERVICES INDST
 RDP, COLLEGE & UNIVERSITY EDUCATION
 RDP, OTHER NONCOMMERCIAL SERV INDST
 RDP, WHOLESALE & RETAIL TRADE INDST
 RDP, TRANSPORTATION INDST
 RDP, UTILITY INDST

VARIABLES EXOGENOUS TO THE MANHOUR BLOCK

DUMMY VARIABLE - MAN-HOURS BLOCK
 MANHOURS - ACCOUNTING ADJUSTMENT PRIMARY METAL
 MANHOURS - ACCOUNTING ADJUSTMENT TRANSP EQUIP INDST
 MANHOURS - ACCOUNTING ADJUSTMENT MINING INDST

WMINW71.87
 WTRAD602.99
 WUTIL572.79
 XAGFT1.21+41.7
 XCNST404.21
 XCOMM543.48
 XFIRE701.37\$
 XFSTY31.9
 XGHOSP821
 XGPSED
 XMFDR251.59
 XMFDR261.68
 XMFDR291.94
 XMFDR295.98
 XMFDR301.09
 XMFDR311.18
 XMFDR321+26.9
 XMFDR323.24
 XMFDR325
 XMFDR331.39
 XMFDR351.59
 XMFND101.09
 XMFND151.53
 XMFND162.65
 XMFND172.79
 XMFND181.89
 XMFND231.49
 XMFND271.74
 XMFND286.89
 XMFND365.69
 XMFND372.79
 XMFND391.99
 XMICL61
 XMICP64+96.9
 XMIMW51.9
 XMINW71.87
 XSVCM
 XSVHGED806
 XSVNC
 XTRAD602.99
 XTRSP501.27
 XUTIL572.79

DUMMY65 E
 MMFDR291.98ADJ E
 MMFDR321.29ADJ E
 MMIADJ E

VARIABLES ENDOGENOUS TO THE MANHOUR BLOCK (BOTH BEHAVIOURAL & IDENTITIES)

MANHOURS - AGRICULTURE, FISH & TRAP INDST	MAGFTL.21+41.7	B
MANHOURS - CONSTRUCTION INDST	MCNST	B
MANHOURS - COMMUNICATION & TRANSPORTATION INDST	MCOMM+TRSP	B
MANHOURS - FIN INS & REAL ESTATE INDST	MFIRE701.37	B
MANHOURS - FORESTRY INDST	MFSTY31.9	B
MANHOURS - WOOD INDUSTRIES	MMFDR251.59	B
MANHOURS - FURNITURE & FIXTURE INDST	MMFDR261.68	B
MANHOURS - IRON & STEEL INDST	MMFDR291.94	B
MANHOURS - NONFERROUS METAL INDST	MMFDR295.98	B
MANHOURS - PRIMARY METAL INDST	MMFDR291.98ADJ	B
MANHOURS - METAL FABRICATING INDST	MMFDR301.09	B
MANHOURS - MACHINERY (EX ELEC MACH) INDST	MMFDR311.18	B
MANHOURS - NONAUTO TRANSP EQUIP INDST	MMFDR321+326.29	B
MANHOURS - MOTOR VEHICLE INDST (EX PARTS & ACC)	MMFDR323.24	B
MANHOURS - MOTOR VEHICLE PARTS & ACC INDST	MMFDR325	B
MANHOURS - TRANSPORTATION EQUIP INDST	MMFDR321.29	B
MANHOURS - ELECTRICAL PRODUCTS INDST	MMFDR331.39	B
MANHOURS - NONMETALLIC MINERAL PROD INDST	MMFDR351.59	B
MANHOURS - MANUFACTURING DURABLES, TOTAL	MMFDR	B
MANHOURS - FOOD & BEVERAGE INDST	MMFDR251.59 + MMFDR261.68 + MMFDR291.98	B
MANHOURS - TOBACCO PRODUCTS INDST	+ MMFDR301.09 + MMFDR311.18 + MMFDR321.29	B
MANHOURS - RUBBER & PLASTIC PRODUCTS INDST	+ MMFDR331.39 + MMFDR351.59 - MMFDR321.29ADJ	B
MANHOURS - LEATHER INDUSTRIES	- MMFDR291.98ADJ	B
MANHOURS - TEXTILE INDUSTRIES	MMFDR101.09	B
MANHOURS - KNITTING & CLOTHING MILLS INDST	MMFDR151.53	B
MANHOURS - PAPER & ALLIED INDST	MMFDR162.65	B
MANHOURS - PRINTING, PUBLISHING & ALLIED INDST	MMFDR172.79	B
MANHOURS - PETROLEUM & COAL PRODUCTS INDST	MMFDR181.89	B
MANHOURS - CHEMICAL & CHEMICAL PRODUCTS INDST	MMFDR231.49	B
MANHOURS - MISCELLANEOUS MANUFACTURING INDST	MMFDR271.74	B
MANHOURS - MANUFACTURING NONDURABLES, TOTAL	MMFDR286.89	B
	MMFDR365.69	B
	MMFDR372.79	B
	MMFDR391.99	B
	MMFDR	B
	MMFDR101.09 + MMFDR151.53 + MMFDR162.65	B
	+ MMFDR172.79 + MMFDR181.89 + MMFDR231.49	B
	+ MMFDR271.74 + MMFDR286.89 + MMFDR365.69	B
	+ MMFDR372.79 + MMFDR391.99	B
	MMFDR + MMFDR	B
MANHOURS - MANUFACTURING, TOTAL	MMF	B
MANHOURS - COAL MINING INDUSTRIES	MMICL61	B
MANHOURS - CRD PET, NATL GAS & SRVS INCID TO MINING INDST	MMICP64+96.9	B
MANHOURS - METAL MINING INDUSTRIES	MMIMM51.9	B
MANHOURS - NONMETAL MINING (EXCEPT COAL) INDST	MMINW71.87	B
MANHOURS - MINING, TOTAL	MNI	B
MANHOURS - SERVICES	MSV	B
MANHOURS - WHOLESALE & RETAIL TRADE INDST	MTRAD602.99	B
MANHOURS - UTILITY INDUSTRIES	MUTIL572.79	B
MANHOURS - PUBLIC ADMINISTRATION (INCL DEF)	MGPA	B
MANHOURS - TOTAL ECONOMY	ME	B
	(NGPA * HGPA * 52) / 1000	B
	MAGFTL.21+41.7 + MCNST + MCOMM+TRSP + MFIRE701.37	B
	+ MFSTY31.9 + MMF + MNI + MSV + MTRAD602.99	B
	+ MUTIL572.79 + MGPA	B

Equation No.: 2352

Name: Manhours -- Agriculture, Fishing and Trapping Industries

Mnemonic: MAFGT1.21+41.7

Period: 1950-74

$\ln(\text{XAGFT1.21+41.7} / \text{MAGFT1.21+41.7})$

= - 8.56653
(13.41)

+ 0.34984 $\ln(\text{WAGFT1.21+41.7} / \text{CPI})$
(3.66)

+ 1.08666 $\ln(\text{XAGFT1.21+41.7})$
(28.48)

+ 0.01616 TIME
(2.81)

$\bar{R}^2 = 0.997$

SEE = 0.021

D.W. = 0.873

RHO = 0.509

Equation No.: 270

Name: Manhours -- Construction Industry

Mnemonic: MCNST

Period: 1951-74

ln(MCNST)

= + 1.52847
(1.64)

- 0.20799 ln(WCNST / CPI)
(1.52)

+ sum(i=0,2)b(i) ln(XCNST404.21(-i))

i	b(i)	t(i)
0	+0.68179	(3.38)
1	+0.10012	(1.58)
2	-0.12714	(1.12)

sum +0.65477 (5.09)

(2,3,FAR)

$\bar{R}^2 = 0.906$

SEE = 0.049

D.W. = 0.928

RHO = 0.525

Equation No.: 271

Name: Manhours -- Communication and Transportation Industries

Mnemonic: MCOMM+TRSP

Period: 1951-74

ln(MCOMM+TRSP)

= + 2.70889
(4.50)

- 0.34027 ln(WCOMM+TRSP / CPI)
(3.13)

- 0.015993 TIME
(2.66)

+ sum(i=0,2)b(i) ln(XCOMM543.48(-i) + XTRSP501.27(-i))

i	b(i)	t(i)
0	+0.37515	(3.60)
1	+0.21271	(3.56)
2	+0.087660	(1.11)
sum	+0.67552	(5.91)

(2,3,FAR)

$\bar{R}^2 = 0.949$

SEE = 0.019

D.W. = 1.548

Equation No.: 272

Name: Manhours -- Finance, Insurance and Real Estate Industries

Mnemonic: MFIRE701.37

Period: 1950-74

$\ln((IKFIREC701.37 + IKFIREM701.37) / MFIRE701.37)$

= - 1.35829
(4.55)

+ 0.28774 $\ln(WFIRE701.37 / ((XFIRE701.37\$ - WBIRE701.37)$
(3.53) $/ (IKFIREC701.37 + IKFIREM701.37)))$

+ 0.041183 TIME
(6.57)

$\overline{R}^2 = 0.984$ SEE = 0.061 D.W. = 0.234 RHO = 0.861

Equation No.: 273

Name: Manhours -- Forestry Industries

Mnemonic: MFSTY31.9

Period: 1951-74

$\ln(\text{MFSTY31.9})$

= + 3.50526
(2.17)

- 0.029196 TIME
(2.52)

- 0.46861 $\ln(\text{WFSTY31.9} / \text{CPI})$
(2.55)

+ $\text{sum}(i=0,2)b(i) \ln(\text{XFSTY31.9}(-i))$

i	b(i)	t(i)
0	+0.86569	(5.02)
1	+0.041070	(0.29)
2	-0.24749	(2.05)
sum	+0.65927	(1.81)

(2,3,FAR)

$\overline{R^2} = 0.809$ SEE = 0.094 D.W. = 0.400 RHO = .774

Equation No.: 274

Name: Manhours-- Wood Industries

Mnemonic: MMFDR251.59

Period: 1957-74

$\ln(\text{MMFDR251.59})$

= + 0.36916
(0.31)

- 0.36828 $\ln(\text{WMFDR251.59} / \text{CPI})$
(1.36)

+ $\text{sum}(i=0,2)b(i) \ln(\text{XMFDR251.59}(-i))$

i	b(i)	t(i)
0	+0.77534	(4.68)
1	+0.14183	(1.52)
2	-0.11662	(1.11)
sum	+0.80055	(3.58)

(2,3,FAR)

$\bar{R}^2 = 0.883$ $\text{SEE} = 0.042$ $\text{D.W.} = 0.519$ $\text{RHO} = 0.716$

Equation No.: 275

Name: Manhours -- Furniture and Fixtures Industries

Mnemonic: MMFDR261.68

Period: 1957-74

$\ln(\text{MMFDR261.68}) + (0.47806 * \ln(\text{IKMFDC261.8} + \text{IKMFD261.8}))$

= + 1.38285
(4.29)

+ $\sum_{i=0,2} b(i) \ln(\text{XMFDR261.68}(-i))$

i	b(i)	t(i)
0	+0.72009	(6.96)
1	+0.23208	(5.63)
2	-0.0079455	(0.11)
sum	+0.94422	(16.39)
(2,3,FAR)		

$\bar{R}^2 = 0.980$ SEE = 0.040 D.W. = 0.500 RHO = 0.738

Equation No.: 276

Name: Manhours -- Iron and Steel Industries

Mnemonic: MMFDR291.94

Period: 1958-74

$\ln(\text{MMFDR291.94}) - \ln(\text{MMFDR291.94}(-1))$

= + 1.71488
(2.91)

+ 0.60245 $\ln(\text{XMFDR291.94})$
(6.84)

- 0.0026812 TIME
(0.40)

- 0.68397 $(\ln(\text{MMFDR291.94}(-i)) + (0.42700$
(6.14) $* \ln(\text{IKMFDC291.4} + \text{IKMFDM291.4}))$

$\bar{R}^2 = 0.824$

SEE = 0.027

D.W. = 1.898

Equation No.: 277

Name: Manhours -- Nonferrous Metal Industries

Mnemonic: MMFDR295.98

Period: 1958-74

$$\ln(\text{MMFDR295.98}) - \ln(\text{MMFDR295.98}(-1))$$

$$= + 1.0114 \\ (1.82)$$

$$+ 0.23978 \quad \ln(\text{XMFDR295.98}) \\ (2.79)$$

$$- 0.32441 \quad (\ln(\text{MMFDR295.98}(-1)) + (0.43387 \\ (2.54) \quad * \ln(\text{IKMFDC295.8} + \text{IKMFDM295.8})))$$

$$\overline{R}^2 = 0.266$$

$$\text{SEE} = 0.036$$

$$\text{D.W.} = 2.177$$

Equation No.: 280

Name: Manhours -- Metal Fabricating Industries

Mnemonic: MMFDR301.09

Period: 1957-74

ln(MMFDR301.09)

= + 1.62138
(9.85)

- 0.29513 ln(WMFDR301.09 / CPI)
(3.69)

+ sum(i=0,2)b(i) ln(XMFDR301.09(-i))

i	b(i)	t(i)
0	+0.72357	(15.00)
1	+0.057376	(2.27)
2	-0.18382	(4.81)
sum	+0.59713	(16.48)
(2,3,FAR)		

$\overline{R}^2 = 0.992$

SEE = 0.013

D.W. = 2.385

Equation No.: 281

Name: Manhours -- Machinery (Excluding Electrical Machinery) Industry

Mnemonic: MMFDR311.18

Period: 1958-74

$$\ln(\text{MMFDR311.18}) - \ln(\text{MMFDR311.18}(-1))$$

$$= + 1.61172 \\ (7.36)$$

$$+ 0.93055 \quad \ln(\text{XMFDR311.18}) \\ (10.83)$$

$$- 0.029494 \quad \text{TIME} \\ (5.14)$$

$$- 0.90840 \quad (\ln(\text{MMFDR311.18}(-1)) \\ (11.89) \quad + (0.19850 * \ln(\text{IKMFDC311.8} \\ + \text{IKMFDM311.8})))$$

$$\bar{R}^2 = 0.915$$

$$\text{SEE} = 0.018$$

$$\text{D.W.} = 2.348$$

Equation No.: 282

Name: Manhours -- Nonauto Transportation Industries

Mnemonic: MMFDR321+326.29

Period: 1958-74

$\ln(\text{MMFDR321}+326.29) - \ln(\text{MMFDR321}+326.29(-1))$
 $+ (\ln(\text{MMFDR321}+326.29(-1)) + (0.149640 * \ln(\text{IKMFDC321}+326.9$
 $+ \text{IKMFDM321}+326.9)))$

= + 2.05745
(5.43)

+ 0.83169 $\ln(\text{XMFDR321}+26.9)$
(9.52)

- 0.02288 TIME
(6.85)

$\bar{R}^2 = 0.857$

SEE = 0.035

D.W. = 1.887

Equation No.: 283

Name: Manhours -- Motor Vehicle Industry (Excluding Parts and Accessories)

Mnemonic: MMFDR323.24

Period: 1958-74

$\ln(\text{MMFDR323.24}) - \ln(\text{MMFDR323.24}(-1))$

= + 2.80980
(4.20)

+ 0.44777 $\ln(\text{XMFDR323.24})$
(5.03)

- 0.77185 $(\ln(\text{MMFDR323.24}(-1))$
(5.01) $+ (0.41240 * \ln(\text{IKMFDC323.4} + \text{IKMFDM323.4})))$

$\bar{R}^2 = 0.103$ $\text{SEE} = 0.073$ $\text{D.W.} = 0.575$ $\text{RHO} = 0.643$

Equation No.: 284

Name: Manhours -- Motor Vehicle Parts and Accessories Industry

Mnemonic: MMFDR325

Period: 1958-74

$\ln(\text{MMFDR325}) - \ln(\text{MMFDR325}(-1))$

= + .70282
(2.88)

+ 0.72651 $\ln(\text{XMFDR325})$
(4.21)

- 0.025018 TIME
(1.43)

- 0.59329 $(\ln(\text{MMFDR325}(-1))$
(4.77) + $(0.23956 * \ln(\text{IKMFDC325} + \text{IKMFDM325}))$

$\bar{R}^2 = 0.642$

SEE = 0.059

D.W. = 1.941

Equation No.: 287

Name: Manhours -- Electrical Products Industries

Mnemonic: MMFDR331.39

Period: 1958-74

$\ln(\text{MMFDR331.39}) - \ln(\text{MMFDR331.39}(-1))$

= + 1.44611
(2.47)

- 0.0072588 TIME
(0.87)

+ 0.43330 $\ln(\text{XMFDR331.39})$
(3.97)

- 0.52594 $(\ln(\text{MMFDR331.39}(-1))$
(4.31) + $(0.30660 * \ln(\text{IKMFDC331.9} + \text{IKMFDM331.9}))$

$\overline{R^2} = 0.628$

SEE = 0.031

D.W. = 1.941

Equation No.: 288

Name: Manhours -- Nonmetallic Mineral Products Industries

Mnemonic: MMFDR351.59

Period: 1957-74

$\ln(\text{MMFDR351.59})$

= + 0.66244
(1.64)

- 0.55008 $\ln(\text{WMFDR351.59} / \text{CPI})$
(3.83)

+ $\text{sum}(i=0,2)b(i) \ln(\text{XMFDR351.59}(-i))$

i	b(i)	t(i)
0	+0.51903	(4.09)
1	+0.19239	(3.83)
2	+0.019375	(0.24)
sum	+0.73079	(8.19)
	(2,3,FAR)	

$\bar{R}^2 = 0.906$ $\text{SEE} = 0.036$ $\text{D.W.} = 2.808$ $\text{RHO} = -0.364$

Equation No.: 290

Name: Manhours -- Food and Beverage Industry

Mnemonic: MMFND101.09

Period: 1958-74

$\ln(\text{MMFND101.09}) - \ln(\text{MMFND101.09}(-1))$

= + 2.18356
(3.02)

+ 0.45970 $\ln(\text{XMFND101.09})$
(2.52)

- 0.45668 $(\ln(\text{MMFND101.09}(-1)) + (0.81412 * \ln(\text{IKMFND101.9} \\ + \text{IKMFND101.9})))$
(2.72)

$\bar{R}^2 = 0.334$

SEE = 0.017

D.W. = 2.278

Equation No.: 291

Name: Manhours -- Tobacco Products Industries

Mnemonic: MMFND151.53

Period: 1958-74

$\ln(\text{MMFND151.53}) - \ln(\text{MMFND151.53}(-1))$

= + 3.78717
(2.82)

+ 0.22378 $\ln(\text{XMFND151.53})$
(2.14)

- 0.68004 $(\ln(\text{MMFND151.53}(-1)) + (0.87522 * \ln(\text{IKMFND151.3} + \text{IKMFND151.3})))$
(2.82)

$\overline{R^2} = 0.275$

SEE = 0.041

D.W. = 1.318

Equation No.: 292

Name: Manhours -- Rubber and Plastic Products Industries

Mnemonic: MMFND162.65

Period: 1958-74

$$\ln(\text{MMFND162.65}) - \ln(\text{MMFND162.65}(-1))$$

$$= + 0.85615 \\ (2.97)$$

$$+ 0.34167 \quad \ln(\text{XMFND162.65}) \\ (3.71)$$

$$- 0.39310 \quad (\ln(\text{MMFND162.65}(-1)) + (0.47996 * \ln(\text{IKMFNDC162.5} \\ (3.63) \quad + \text{IKMFNDM162.5})))$$

$$\overline{R}^2 = 0.424$$

$$\text{SEE} = 0.043$$

$$\text{D.W.} = 2.314$$

Equation No.: 293

Name: Manhours -- Leather Industry

Mnemonic: MMFND172.79

Period: 1957-74

$\ln(\text{MMFND172.79})$

= + 0.80951
(1.33)

- 0.56809 $\ln(\text{WMFND172.79} / \text{CPI})$
(1.66)

- 0.0033835 TIME
(0.30)

+ 0.79055 $\ln(\text{XMFND172.79})$
(4.11)

$\bar{R}^2 = 0.864$

SEE = 0.021

D.W. = 1.591

Equation No.: 294

Name: Manhours -- Textile Industry

Mnemonic: MMFND181.89

Period: 1957-74

$\ln(\text{MMFND181.89})$

= + 1.94031
(5.08)

- 0.74664 $\ln(\text{WMFND181.89} / \text{CPI})$
(2.58)

- 0.02709 TIME
(1.48)

+ $\text{sum}(i=0,2)b(i) \ln(\text{XMFND181.89}(-i))$

i	b(i)	t(i)
0	+0.50092	(3.63)
1	+0.29521	(3.76)
2	+0.12824	(1.72)
sum	+0.92437	(4.40)
(2,3,FAR)		

$\bar{R}^2 = 0.907$

SEE = 0.024

D.W. = 1.833

Equation No.: 295

Name: Manhours -- Knitting and Clothing Mills Industries

Mnemonic: MMFND231.49

Period: 1957-74

ln(MMFND231.49)

= + 0.92308
(1.20)

- 0.00831 TIME
(0.84)

- 0.56340 ln(WMFND231.49 / CPI)
(3.45)

+ sum(i=0,2)b(i) ln(XMFND231.49(-i))

i	b(i)	t(i)
0	+0.64256	(4.40)
1	+0.21045	(2.51)
2	-0.0037356	(0.04)
sum	+0.84927	(4.19)
(2,3,FAR)		

$\bar{R}^2 = 0.927$

SEE = 0.016

D.W. = 2.675

Equation No.: 296

Name: Manhours -- Paper and Allied Industries

Mnemonic: MMFND271.74

Period: 1957-74

$\ln(\text{MMFND271.74})$

= + 1.83427
(3.50)

- 0.41014 $\ln(\text{WMFND271.74} / \text{CPI})$
(2.22)

+ $\text{sum}(i=0,2)b(i) \ln(\text{XMFND271.74}(-i))$

i	b(i)	t(i)
0	+0.34710	(3.50)
1	+0.18196	(2.87)
2	+0.066262	(0.78)
sum	+0.59532	(5.53)
(2,3,FAR)		

$\bar{R}^2 = 0.965$

SEE = 0.018

D.W. = 2.360

Equation No.: 297

Name: Manhours -- Printing, Publishing and Allied Industries

Mnemonic: MMFND286.89

Period: 1958-74

$\ln(\text{MMFND286.89}) - \ln(\text{MMFND286.89}(-1))$

= - 0.40898
(0.17)

+ 0.51720 $\ln(\text{XMFND286.89})$
(1.65)

- 0.010241 TIME
(0.57)

- 0.27537 $(\ln(\text{MMFND286.89}(-1)) + (0.54813 * \ln(\text{IKMFNDC286.9} + \text{IKMFNDM286.9})))$
(1.14)

$\bar{R}^2 = 0.266$

SEE = 0.020

D.W. = 2.066

Equation No.: 298

Name: Manhours -- Petroleum and Coal Products Industries

Mnemonic: MMFND365.69

Period: 1959-74

$\ln(\text{XMFND365.69} / \text{MMFND365.69})$

= - 0.93952
(10.37)

+ 0.036051 TIME
(4.01)

+ $\text{sum}(i=0,2)b(i) \ln(\text{WMFND365.69}(-i) / \text{CPI}(-i))$

i	b(i)	t(i)
0	-1.26595	(3.89)
1	+0.60073	(3.53)
2	+1.02271	(4.61)

sum +0.35749 (0.99)
(2,3,FAR)

$\bar{R}^2 = 0.980$ SEE = 0.032 D.W. = 2.002 RHO = -.426

Equation No.: 299

Name: Manhours -- Chemicals and Chemical Products Industry

Mnemonic: MMFND372.79

Period: 1957-74

ln(MMFND372.79)

= + 2.88576
(24.22)

- 0.70564 ln(WMFND372.79 / CPI)
(5.63)

+ sum(i=0,2)b(i) ln(XMFND372.79(-i))

i	b(i)	t(i)
0	+0.12721	(1.65)
1	+0.18866	(5.51)
2	+0.14626	(2.57)
sum	+0.46213	(11.03)
	(2,3,FAR)	

$\bar{R}^2 = 0.982$

SEE = 0.012

D.W. = 2.739

Equation No.: 300

Name: Manhours -- Miscellaneous Manufacturing Industries

Mnemonic: MMFND391.99

Period: 1958-74

$\ln(\text{MMFND391.99}) - \ln(\text{MMFND391.99}(-1))$

= + 0.23019
(1.40)

+ 0.27997 $\ln(\text{XMFND391.99})$
(2.15)

- 0.22722 $(\ln(\text{MMFND391.99}(-1)) + (0.72286 * \ln(\text{IKMFNDC391.9} + \text{IKMFNDM391.9})))$
(2.34)

$\overline{R^2} = 0.198$

SEE = 0.029

D.W. = 2.377

Equation No.: 303

Name: Manhours -- Coal Mining Industry

Mnemonic: MMICL61

Period: 1958-74

$\ln(\text{MMICL61}) - \ln(\text{MMICL61}(-1))$

= + 0.38566
(0.60)

+ 0.17800 $\ln(\text{XMICL61})$
(1.19)

+ 0.0026808 TIME
(0.32)

- 0.31102 $(\ln(\text{MMICL61}(-1)) + (0.31335 * \ln(\text{IKMICLC61}$
(2.23) $+ \text{IKMICLM61})))$

+ 0.38409 DUMMY65
(3.29)

$\bar{R}^2 = 0.594$

SEE = 0.105

D.W. = 2.654

Equation No.: 304

Name: Manhours -- Crude Petroleum, Natural Gas and Services
Incidental to Mining Industry

Mnemonic: MMICP64+96.9

Period: 1958-74

$\ln(\text{MMICP64}+96.9)$

= - 0.80735
(0.96)

- 0.24300 $\ln(\text{WMICP64}+96.9 / \text{CPI})$
(0.21)

+ 0.31412 $\ln(\text{XMICP64}+96.9)$
(0.82)

+ 0.74083 $\ln(\text{MMICP64}+96.9(-1))$
(6.52)

+ 0.47803 DUMMY65
(3.57)

$\bar{R}^2 = 0.916$

SEE = 0.092

D.W. = 2.721

Equation No.: 305

Name: Manhours -- Metal Mining Industries

Mnemonic: MMIMM51.9

Period: 1958-74

$\ln(\text{MMIMM51.9}) - \ln(\text{MMIMM51.9}(-1))$

= - 3.46459
(5.57)

+ 1.06115 $\ln(\text{XMIMM51.9})$
(4.84)

- 0.24551 $(\ln(\text{MMIMM51.9}(-1)) + (1.47286 * \ln(\text{IKMIMMC51.9}$
(4.08) $+ \text{IKMIMM51.9})))$

+ 0.61907 DUMMY65
(13.30)

$\bar{R}^2 = 0.900$ $\text{SEE} = 0.053$ $\text{D.W.} = 2.612$ $\text{RHO} = -0.775$

Equation No.: 306

Name: Manhours -- Nonmetal Mining (Except Coal) Industry

Mnemonic: MMINM71.87

Period: 1957-74

$\ln(\text{MMINM71.87})$

= - 2.95519
(3.54)

- 0.15821 $\ln(\text{WMINM71.87} / \text{CPI})$
(0.23)

- 0.16351 TIME
(4.86)

+ 0.24393 DUMMY65
(3.00)

+ $\text{sum}(i=0,2)b(i) \ln(\text{XMINM71.87}(-i))$

i	b(i)	t(i)
0	+0.30779	(0.80)
1	+1.46968	(7.85)
2	+1.36709	(5.94)

sum +3.14456 (7.01)

(2,3,FAR)

$\bar{R}^2 = 0.919$

SEE = 0.067

D.W. = 1.737

Equation No.: 309

Name: Manhours -- Commercial and Business Services Industries

Mnemonic: MSV

Period: 1950-75

$\ln(\text{MSV} / (\text{XGHOSP821} + \text{XGPSED} + \text{XSVHGED806} + \text{XSVCM} + \text{XSVNC}))$

= - 0.79770
(5.04)

- 0.00962 TIME
(3.83)

$\bar{R}^2 = 0.647$ SEE = 0.052 D.W. = 0.154 RHO = 0.880

Equation No.: 310

Name: Manhours -- Wholesale and Retail Trade Industry

Mnemonic: MTRAD602.99

Period: 1951-74

$\ln(\text{MTRAD602.99})$

= + 0.98948
(1.25)

- 0.49331 $\ln(\text{WTRAD602.99} / \text{CPI})$
(3.75)

+ $\text{sum}(i=0,2)b(i) \ln(\text{XTRAD602.99}(-i))$

i	b(i)	t(i)
0	+0.43356	(5.37)
1	+0.25705	(5.73)
2	+0.11253	(2.07)

sum +0.80315 (7.97)
(2,3,FAR)

$\bar{R}^2 = 0.970$ SEE = 0.026 D.W. = 0.157 RHO = 0.791

Equation No.: 311

Name: Manhours -- Utility Industries

Mnemonic: MUTIL572.79

Period: 1951-74

ln(MUTIL572.79)

= + 1.10435
(0.93)

- 0.71251 ln(WUTIL572.79 / CPI)
(4.81)

- 0.02395 TIME
(0.52)

+ sum(i=0,2)b(i) ln(XUTIL572.79(-i))

i	b(i)	t(i)
0	-0.00349	(0.01)
1	+0.45083	(1.99)
2	+0.45199	(1.97)
sum	+0.89933	(1.57)

(2,3,FAR)

$\bar{R}^2 = 0.913$ SEE = 0.053 D.W. = 0.526 RHO = 0.720

VARIABLES DETERMINED OUTSIDE THE WEEKLY HOURS BLOCK

CONSUMER PRICE INDEX	CPI
TOTAL POPULATION CANADA	DPOP
UNEMPLOYMENT RATE	DURATE
GOVERNMENT REVENUE - DIRECT TAXES PERSONS	GR.DT.P\$
MANHOURS - COAL MINING INDUSTRIES	MMICL61
MANHOURS - METAL MINING INDUSTRIES	MMIMM51.9
MANHOURS - NONMETAL MINING (EXCEPT COAL) INDST	MMINW71.87
PERSONAL INCOME	PYS
AVE HRLY ERNS - AGRICULTURE, FISH & TRAPPING INDST	WAGFT1.21+41.7
AVE HRLY ERNS - CONSTRUCTION	WCNST
AVE HRLY ERNS - COMMUNICATION & TRANSPORTATION	WCOMM+TRSP
AVE HRLY ERNS - FIN. INS. & REAL ESTATE INDST	WFIRE701.37
AVE HRLY ERNS - FORESTRY INDUSTRIES	WFSTY31.9
AVE HRLY ERNS - PUBLIC ADMINISTRATION (INCL.DEF.)	WGPA
AVE HRLY ERNS - WOOD INDUSTRIES	WMFDR251.59
AVE HRLY ERNS - FURNITURE & FIXTURES INDST	WMFDR261.68
AVE HRLY ERNS - IRON & STEEL INDUSTRIES	WMFDR291.94
AVE HRLY ERNS - METAL FABRICATING INDUSTRIES	WMFDR301.09
AVE HRLY ERNS - NON AUTO TRANSP EQUIP INDST	WMFDR321+326.29
AVE HRLY ERNS - ELECTRICAL PRODUCTS INDUSTRIES	WMFDR331.39
AVE HRLY ERNS - NON METALLIC MINERAL PROD INDST	WMFDR351.59
AVE HRLY ERNS - RUBBER AND PLASTIC PRODS INDST	WMEND162.65
AVE HRLY ERNS - LEATHER INDUSTRIES	WMEND172.79
AVE HRLY ERNS - TEXTILE INDUSTRIES	WMEND181.89
AVE HRLY ERNS - KNITTING & CLOTHING MILLS INDST	WMEND231.49
AVE HRLY ERNS - PAPER AND ALLIED INDUSTRIES	WMEND271.74
AVE HRLY ERNS - PETROLEUM & COAL PRODUCTS INDST	WMEND365.69
AVE HRLY ERNS - MISCELLANEOUS MANUFACTURING INDST	WMEND391.99
AVE HRLY ERNS - COAL MINING INDUSTRIES	WMICL61
AVE HRLY ERNS - CRD. PET. NATL GAS & SERV INCID. TO MIN	WMICP64+96.9
AVE HRLY ERNS - METAL MINING INDUSTRIES	WMIMM51.9
AVE HRLY ERNS - NON METAL MINING (EXCEPT COAL) INDST	WMINW71.87
AVE HRLY ERNS - SERVICES	WSV
AVE HRLY ERNS - WHOLESALE & RETAIL TRADE INDST	WTRAD602.99
AVE HRLY ERNS - UTILITY INDUSTRIES	WUTIL572.79

VARIABLES EXOGENOUS TO THE WEEKLY HOURS BLOCK

DUMMY VARIABLE - AVERAGE WEEKLY HOURS BLOCK

HDUMMY65

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VARIABLES ENDOGENOUS TO THE WEEKLY HOURS BLOCK (BEHAVIOURAL)

AVE WKLY HRS	- AGRICULTURE, FISH & TRAPPING INDST	B	HAGFT1.21+41.7
AVE WKLY HRS	- CONSTRUCTION	B	HCNST
AVE WKLY HRS	- COMMUNICATION & TRANSPORTATION	B	HCOMM+TRSP
AVE WKLY HRS	- FIN. INS. & REAL ESTATE INDST	B	HFIRE701.37
AVE WKLY HRS	- FORESTRY INDUSTRIES	B	HFSTY31.9
AVE WKLY HRS	- WOOD INDUSTRIES	B	HMFOR251.59
AVE WKLY HRS	- FURNITURE AND FIXTURES	B	HMFOR261.68
AVE WKLY HRS	- IRON AND STEEL INDUSTRIES	B	HMFOR291.94
AVE WKLY HRS	- NONFERROUS METAL INDUSTRIES	B	HMFOR295.98
AVE WKLY HRS	- METAL FABRICATING INDUSTRIES	B	HMFOR301.09
AVE WKLY HRS	- MACHINERY (EX ELEC MACH) INDST	B	HMFOR311.18
AVE WKLY HRS	- NON AUTO TRANSP EQUIP INDST	B	HMFOR321+326.29
AVE WKLY HRS	- MOTOR VEHICLE INDST (EX PARTS & ACC)	B	HMFOR323.24
AVE WKLY HRS	- MOTOR VEHICLE PARTS & ACC. INDST	B	HMFOR325
AVE WKLY HRS	- ELECTRICAL PRODUCTS INDUSTRIES	B	HMFOR331.39
AVE WKLY HRS	- NONMETALLIC MINERAL PROD INDST	B	HMFOR351.59
AVE WKLY HRS	- FOOD AND BEVERAGE INDUSTRIES	B	HMEND101.09
AVE WKLY HRS	- TOBACCO PRODUCTS INDUSTRIES	B	HMEND151.53
AVE WKLY HRS	- RUBBER AND PLASTIC PRODS INDST	B	HMEND162.65
AVE WKLY HRS	- LEATHER INDUSTRIES	B	HMEND172.79
AVE WKLY HRS	- TEXTILE INDUSTRIES	B	HMEND181.89
AVE WKLY HRS	- KNITTING & CLOTHING MILLS INDST	B	HMEND231.49
AVE WKLY HRS	- PAPER AND ALLIED INDUSTRIES	B	HMEND271.74
AVE WKLY HRS	- PRINTING, PUBLISHING & ALLIED INDST	B	HMEND286.89
AVE WKLY HRS	- PETROLEUM & COAL PRODUCTS INDST	B	HMEND365.69
AVE WKLY HRS	- CHEMICAL & CHEMICAL PRODUCTS INDST	B	HMEND372.79
AVE WKLY HRS	- MISCELLANEOUS MANUFACTURING INDST	B	HMEND391.99
AVE WKLY HRS	- COAL MINING INDUSTRIES	B	HMICL61
AVE WKLY HRS	- CRD PET, NATL GAS & SERV. INCID. TO MIN	B	HMICP64+96.9
AVE WKLY HRS	- METAL MINING INDUSTRIES	B	HMINM51.9
AVE WKLY HRS	- NONMETAL MINING (EXCEPT COAL) INDST	B	HMINM71.87
AVE WKLY HRS	- SERVICES	B	HSV
AVE WKLY HRS	- WHOLESALE & RETAIL TRADE INDST	B	HTRAD602.99
AVE WKLY HRS	- UTILITY INDUSTRIES	B	HUTIL572.79
AVE WKLY HRS	- PUBLIC ADMINISTRATION (INCL.DEF.)	B	HGPA

Equation No.: 314

Name: Average Weekly Hours -- Agriculture, Fishing and Trapping
Industry

Mnemonic: HAGFT1.21+41.7

Period: 1950-75

HAGFT1.21+41.7

= + 40.86680
(18.74)

- 3.73020 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(2.91) $* (\text{WAGFT1.21+41.7} / \text{CPI})) / 100)$

$\bar{R}^2 = .575$

SEE = 1.730

D.W. = .176

RHO = .853

Equation No.: 315

Name: Average Weekly Hours -- Construction Industry

Mnemonic: HCNST

Period: 1953-75

HCNST

= + 43.71940
 (79.77)

- 3.57990 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
 (7.43) $* (\text{WCNST} / \text{CPI})) / 100)$

- .23135 DURATE
 (2.94)

$\bar{R}^2 = .872$ $\text{SEE} = .400$ $\text{D.W.} = 1.007$ $\text{RHO} = .386$

Equation No.: 316

Name: Average Weekly Hours -- Communication and Transportation
Industries

Mnemonic: HCOMM+TRSP

Period: 1950-75

HCMM+TRSP

= + 49.47350
(91.26)

- 9.66387 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(18.21) * (WCOMM+TRSP / CPI)) / 100)

$\bar{R}^2 = .962$ SEE = .392 D.W. = .644 RHO = .528

Equation No.: 317

Name: Average Weekly Hours -- Finance, Insurance and Real Estate
Industry

Mnemonic: HFIRE701.37

Period: 1950-75

HFIRE701.37

= + 41.39230
(57.93)

- 4.29518 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(6.52) * (WFIRE701.37 / CPI) / 100)

$\bar{R}^2 = .756$ SEE = .409 D.W. = .301 RHO = .700

Equation No.: 318

Name: Average Weekly Hours -- Forestry Industries

Mnemonic: HFSTY31.9

Period: 1953-75

HFSTY31.9

$$\begin{aligned}
&= + \quad 35.57450 \\
&\quad (10.55) \\
&- \quad 5.43801 \quad \ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)) \\
&\quad (5.23) \quad \quad * (\text{WFSTY31.9} / \text{CPI})) / 100) \\
&- \quad .10969 \quad \text{DURATE} \\
&\quad (0.84) \\
&+ 215879.00000 \quad 1 / \text{DPOP} \\
&\quad (5.43)
\end{aligned}$$

$\bar{R}^2 = .947$

SEE = .661

D.W. = 1.369

Equation No.: 319

Name: Average Weekly Hours -- Wood Industries

Mnemonic: HMFDR251.59

Period: 1957-75

HMFDR251.59

= + 40.28380
(71.58)

- .057433 DURATE
(0.85)

- 2.95943 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(6.17) $* (\text{WMFDR251.59} / \text{CPI}) / 100)$

$\bar{R}^2 = .688$

SEE = .315

D.W. = 1.331

Equation No.: 320

Name: Average Weekly Hours -- Furniture and Fixtures Industries

Mnemonic: HMFDR261.68

Period: 1957-75

HMFDR261.68

= + 42.59800
(62.67)

- .10933 DURATE
(1.56)

- 4.29996 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(5.91) $* (\text{WMFDR261.68} / \text{CPI})) / 100)$

$\bar{R}^2 = .684$

SEE = .326

D.W. = 1.467

Equation No.: 321

Name: Average Weekly Hours -- Iron and Steel Industries

Mnemonic: HMFDR291.94

Period: 1957-75

HMFDR291.94

= + 37.84320
(93.90)

- .20300 DURATE
(6.77)

+ .73065 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)))$
(2.34) $* (\text{WMFDR291.94} / \text{CPI})) / 100)$

$\overline{R^2} = .743$

SEE = .139

D.W. = 2.348

Equation No.: 322

Name: Average Weekly Hours -- Nonferrous Metal Industries

Mnemonic: HMFDR295.98

Period: 1957-75

HMFDR295.98

= + 39.89270
(93.75)

- .22765 DURATE
(6.51)

- 18100.10000 1 / DPOP
(2.32)

$\bar{R}^2 = .746$

SEE = .163

D.W. = 1.442

Equation No.: 324

Name: Average Weekly Hours -- Metal Fabricating Industries

Mnemonic: HMFDR301.09

Period: 1957-75

HMFDR301.09

= + 40.62960
(38.22)

- .18850 DURATE
(3.40)

- 1.56224 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)))$
(1.50) $* (\text{WMFDR301.09} / \text{CPI}) / 100)$

$\overline{R^2}$ = .582 SEE = .275 D.W. = .509 RHO = .660

Equation No.: 325

Name: Average Weekly Hours -- Machinery (Excluding Electrical
Machinery) Industry

Mnemonic: HMFDR311.18

Period: 1957-75

HMFDR311.18

= + 39.24660
(150.31)

- .25790 DURATE
(5.91)

$\bar{R}^2 = .641$

SEE = .226

D.W. = .572

RHO = .628

Equation No.: 326

Name: Average Weekly Hours -- Nonauto Transportation Equipment
Industry

Mnemonic: HMFDR321+326.29

Period: 1957-75

HMFDR321+326.29

=	+	71.22670 (9.03)	
-		.12287 (1.03)	DURATE
-		13.44280 (3.02)	$\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)) * (\text{WMFDR321+326.29} / \text{CPI})) / 100)$
-		331408.00000 (4.76)	1 / DPOP
-		.90575 (2.12)	HDUMMY65

$\bar{R}^2 = .641$

SEE = .344

D.W. = 1.680

Equation No.: 327

Name: Average Weekly Hours -- Motor Vehicle Industry
(Excluding Parts and Accessories)

Mnemonic: HMFDR323.24

Period: 1957-75

HMFDR323.24

= +	58.39890 (10.55)	
-	.63130 (3.04)	DURATE
-	2.85471 (3.14)	HDUMMY65
-	302341.00000 (3.44)	1 / DPOP

$\bar{R}^2 = .406$

SEE = .832

D.W. = 1.537

Equation No.: 328

Name: Average Weekly Hours -- Motor Vehicle Parts and
Accessories Industry

Mnemonic: HMFDR325

Period: 1957-75

HMFDR325

= + 49.15810
(14.33)

- .39195 DURATE
(3.05)

- 1.48379 HDUMMY65
(2.64)

- 166784.00000 1 / DPOP
(3.06)

$\bar{R}^2 = .388$

SEE = .516

D.W. = 1.757

Equation No.: 330

Name: Average Weekly Hours -- Electrical Products Industry

Mnemonic: HMFDR331.39

Period: 1957-75

HMFDR331.39

= + 39.34270
(40.87)

- .084735 DURATE
(1.73)

- 1.38960 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(1.46) $* (\text{WMFDR331.39} / \text{CPI}) / 100)$

$\bar{R}^2 = .456$ $\text{SEE} = .212$ $\text{D.W.} = .769$ $\text{RHO} = .553$

Equation No.: 331

Name: Average Weekly Hours -- Nonmetallic Mineral Products Industry

Mnemonic: HMFDR351.59

Period: 1957-75

HMFDR351.59

= + 42.34990
(73.40)

- .19786 DURATE
(3.58)

- 2.16504 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)))$
(4.47) $* (\text{WMFDR351.59} / \text{CPI}) / 100)$

$\overline{R^2} = .668$

SEE = .258

D.W. = 1.764

Equation No.: 333

Name: Average Weekly Hours -- Food and Beverage Industries

Mnemonic: HMFND101.09

Period: 1957-75

HMFND101.09

= + 33.83540
(87.09)

- .092515 DURATE
(2.90)

+ 75733.60000 1 / DPOP
(10.64)

$\bar{R}^2 = .870$

SEE = .149

D.W. = 1.458

Equation No.: 334

Name: Average Weekly Hours -- Tobacco Products Industries

Mnemonic: HMFND151.53

Period: 1957-75

HMFND151.53

= + 29.49310
(54.16)

+ 131493.00000 1 / DPOP
(12.30)

$\overline{R^2}$ = .895

SEE = .225

D.W. = 1.757

Equation No.: 335

Name: Average Weekly Hours -- Rubber And Plastic Products Industry

Mnemonic: HMFND162.65

Period: 1957-75

HMFND162.65

= + 39.12690
(26.77)

- .49791 $\ln(((100 - \text{GR.DT.P\$} / \text{PY\$}) * 100))$
(0.32) * (WMFND162.65 / CPI) / 100)

- .15867 DURATE
(2.06)

$\overline{R^2} = .162$ SEE = .367 D.W. = .598 RHO = .600

Equation No.: 336

Name: Average Weekly Hours -- Leather Industry

Mnemonic: HMFND172.79

Period: 1957-75

HMFND172.79

= + 40.07090
(77.42)

- 5.09185 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(8.17) $* (\text{WMFND172.79} / \text{CPI})) / 100)$

- .036716 DURATE
(0.61)

$\overline{R^2} = .789$

SEE = .284

D.W. = 1.436

Equation No.: 337

Name: Average Weekly Hours -- Textile Industry

Mnemonic: HMFND181.89

Period: 1957-75

HMFND181.89

= + 41.33690
(57.93)

- 3.29174 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(3.70) $* (\text{WMFND181.89} / \text{CPI})) / 100)$

- .097672 DURATE
(1.81)

$\bar{R}^2 = .711$ SEE = .295 D.W. = .446 RHO = .686

Equation No.: 338

Name: Average Weekly Hours -- Knitting and Clothing Mills Industry

Mnemonic: HMFND231.49

Period: 1957-75

HMFND231.49

= + 37.23230
(99.83)

- 3.00237 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(5.10) * (WMFND231.49 / CPI) / 100)

$\overline{R^2} = .756$

SEE = .209

D.W. = 1.183

RHO = .390

Equation No.: 339

Name: Average Weekly Hours -- Paper and Allied Industries

Mnemonic: HMFND271.74

Period: 1957-75

HMFND271.74

= + 40.98590
(117.40)

- 1.61653
(5.84)

$\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
 $* (\text{WMFND271.74} / \text{CPI})) / 100)$

- .18468
(6.93)

DURATE

$\overline{R^2} = .841$

SEE = .125

D.W. = 2.080

Equation No.: 340

Name: Average Weekly Hours -- Printing, Publishing and Allied Industry

Mnemonic: HMFND286.89

Period: 1957-75

HMFND286.89

= + 32.94160
(84.73)

- .15615 DURATE
(4.88)

+ 85592.80000 1 / DPOP
(12.02)

$\bar{R}^2 = .901$

SEE = .149

D.W. = 1.655

Equation No.: 341

Name: Average Weekly Hours -- Petroleum and Coal Products Industry

Mnemonic: HMFND365.69

Period: 1957-75

HMFND365.69

= + 35.96580
(58.27)

+ 2.00571 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(4.73) $* (\text{WMFND365.69} / \text{CPI})) / 100)$

- .12334 DURATE
(3.23)

$\bar{R}^2 = .646$

SEE = .179

D.W. = 1.344

Equation No.: 342

Name: Average Weekly Hours -- Chemical and Chemical Products
Industry

Mnemonic: HMFND372.79

Period: 1957-75

HMFND372.79

= + 38.36870
(90.35)

- .016455 DURATE
(0.47)

- 11950.30000 1 / DPOP
(1.54)

$\bar{R}^2 = .243$

SEE = .163

D.W. = 1.777

Equation No.: 343

Name: Average Weekly Hours -- Miscellaneous Manufacturing Industry

Mnemonic: HMFND391.99

Period: 1957-75

HMFND391.99

= + 39.99460
(46.50)

- 2.79451 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(2.98) * (WMFND391.99 / CPI) / 100)

+ .032299 DURATE
(0.45)

$\bar{R}^2 = .538$

SEE = .296

D.W. = 1.134

RHO = .400

Equation No.: 346

Name: Average Weekly Hours -- Coal Mining Industries

Mnemonic: HMICL61

Period: 1957-75

HMICL61

$$\begin{aligned} &= + \quad 60.40730 \\ &\quad (18.69) \\ &- \quad 8.06022 \quad \ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)) \\ &\quad (7.08) \quad \quad * (\text{WMICL61} / \text{CPI})) / 100) \\ &- 346246.000 \quad 1 / \text{DPOP} \\ &\quad (6.44) \\ &+ \quad 1.12605 \quad \ln(\text{MMICL61}) \\ &\quad (1.38) \end{aligned}$$

$\overline{R}^2 = .746$

SEE = .584

D.W. = 2.067

Equation No.: 347

Name: Average Weekly Hours -- Crude Petroleum, Natural Gas and
Services Incidental to Mining Industry

Mnemonic: HMICP64+96.9

Period: 1957-75

HMICP64+96.9

= + 42.19960
(20.04)

- 2.67282 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(1.72) $* (\text{WMICP64+96.9} / \text{CPI})) / 100)$

$\bar{R}^2 = .108$

SEE = .768

D.W. = 1.505

Equation No.: 348

Name: Average Weekly Hours -- Metal Mining Industry

Mnemonic: HMIMM51.9

Period: 1957-75

HMIMM51.9

= +	46.92430 (5.61)	
-	10.23900 (3.84)	$\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)) * (\text{WMIMM51.9} / \text{CPI})) / 100)$
-	142064.00000 (1.86)	1 / DPOP
+	2.34137 (2.67)	$\ln(\text{MMIMM51.9})$

$\bar{R}^2 = .632$

SEE = .571

D.W. = 1.356

Equation No.: 349

Name: Average Weekly Hours -- Nonmetal Mining (Except Coal) Industry

Mnemonic: HMINM71.87

Period: 1957-75

HMINM71.87

$$\begin{aligned}
 &= + \quad 59.59930 \\
 &\quad (5.65) \\
 &- \quad 13.48930 \quad \ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)) \\
 &\quad (3.57) \quad \quad * (\text{WMINM71.87} / \text{CPI})) / 100) \\
 &- \quad 256972.00000 \quad 1 / \text{DPOP} \\
 &\quad (2.40) \\
 &+ \quad 2.08765 \quad \ln(\text{MMINM71.87}) \\
 &\quad (2.40)
 \end{aligned}$$

$\overline{R}^2 = .508$

SEE = .592

D.W. = 1.452

Equation No.: 351

Name: Average Weekly Hours -- Services Industries

Mnemonic: HSV

Period: 1953-75

HSV

= + 45.08550
(53.07)

- 10.82370 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(10.40) $* (\text{WSV} / \text{CPI})) / 100)$

- .028426 DURATE
(0.36)

$\bar{R}^2 = .957$

SEE = .754

D.W. = .206

RHO = .872

Equation No.: 352

Name: Average Weekly Hours -- Wholesale and Retail Trade Industry

Mnemonic: HTRAD602.99

Period: 1950-75

HTRAD602.99

$$\begin{aligned}
 &= + \quad 29.45210 \\
 &\quad (8.85) \\
 &- \quad 2.30850 \quad \ln(((100 - ((GR.DT.P\$ / PY\$) * 100))) \\
 &\quad (1.47) \quad \quad * (WTRAD602.99 / CPI)) / 100) \\
 &+ 166370.00000 \quad 1 / DPOP \\
 &\quad (3.76)
 \end{aligned}$$

$\bar{R}^2 = .933$ SEE = .550 D.W. = .143 RHO = .905

Equation No.: 353

Name: Average Weekly Hours -- Utility Industries

Mnemonic: HUTIL572.79

Period: 1953-75

HUTIL572.79

= + 44.11450
(53.31)

- 4.34948 $\ln(((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100)))$
(6.60) $* (\text{WUTIL572.79} / \text{CPI})) / 100)$

- .31978 DURATE
(3.10)

$\bar{R}^2 = .770$

SEE = .562

D.W. = 1.758

Equation No.: 354

Name: Average Weekly Hours -- Public Administration (Including Defence)

Mnemonic: H GPA

Period: 1950-75

H GPA

= + 28.11540
(6.52)

+ 167646.00000 1 / DPOP
(3.72)

- 0.85587 $\ln((100 - ((\text{GR.DT.P\$} / \text{PY\$}) * 100))$
(0.59) $* (\text{WGPA} / \text{CPI})) / 100$

$\bar{R}^2 = 0.928$

SEE = 0.482

D.W. = 0.602

RHO = 0.697

VARIABLES DETERMINED OUTSIDE THE EMPLOYMENT BLOCK

TOTAL POPULATION CANADA	DPOP
AVE WKLY HRS - AGRICULTURE, FISH & TRAPPING INDST	HAGFT1.21+41.7
AVE WKLY HRS - CONSTRUCTION	HCONST
AVE WKLY HRS - COMMUNICATION & TRANSPORTATION	HCOMM+TRSP
AVE WKLY HRS - FIN INS & REAL ESTATE INDST	HFTRE701.37
AVE WKLY HRS - FORESTRY INDUSTRIES	HFSTY31.9
AVE WKLY HRS - WOOD INDUSTRIES	HMFD251.59
AVE WKLY HRS - FURNITURE & FIXTURE INDST	HMFD261.68
AVE WKLY HRS - IRON & STEEL INDST	HMFD291.94
AVE WKLY HRS - NONFERROUS METAL INDST	HMFD295.98
AVE WKLY HRS - METAL FABRICATING INDST	HMFD301.09
AVE WKLY HRS - MACHINERY (EX ELEC MACH) INDST	HMFD311.18
AVE WKLY HRS - NON AUTO TRANSP EQUIP INDST	HMFD321+326.29
AVE WKLY HRS - MOTOR VEHICLE INDST (EX PARTS & ACC)	HMFD323.24
AVE WKLY HRS - MOTOR VEHICLE PARTS & ACC INDST	HMFD325
AVE WKLY HRS - ELECTRICAL PRODUCTS INDST	HMFD331.39
AVE WKLY HRS - NON METALLIC MINERAL PROD INDST	HMFD351.59
AVE WKLY HRS - FOOD & BEVERAGE INDST	HMFD101.09
AVE WKLY HRS - TOBACCO PRODUCTS INDST	HMFD151.53
AVE WKLY HRS - RUBBER & PLASTIC PRODS INDST	HMFD162.65
AVE WKLY HRS - LEATHER INDUSTRIES	HMFD172.79
AVE WKLY HRS - TEXTILE INDUSTRIES	HMFD181.89
AVE WKLY HRS - KNITTING & CLOTHING MILLS INDST	HMFD231.49
AVE WKLY HRS - PAPER & ALLIED INDST	HMFD271.74
AVE WKLY HRS - PRINTING, PUBLISHING & ALLIED INDST	HMFD286.89
AVE WKLY HRS - PETROLEUM & COAL PRODUCTS INDST	HMFD365.89
AVE WKLY HRS - CHEMICAL & CHEMICAL PRODUCTS INDST	HMFD372.79
AVE WKLY HRS - MISC MANUFACTURING INDST	HMFD391.99
AVE WKLY HRS - COAL MINING INDST	HMICL61
AVE WKLY HRS - CRD PET, NATL GAS & SRVS INCID TO MIN	HMICP64+96.9
AVE WKLY HRS - METAL MINING INDST	HMIMM51.9
AVE WKLY HRS - NON METAL MINING (EXCEPT COAL) INDST	HMINM71.87
AVE WKLY HRS - SERVICES	HSV
AVE WKLY HRS - WHOLESALE & RETAIL TRADE INDST	HTRAD602.99
AVE WKLY HRS - UTILITY INDUSTRIES	HUTIL572.79
MANHOURS - AGRICULTURE, FISH & TRAPPING INDST	MAGFT1.21+41.7
MANHOURS - CONSTRUCTION	MCNST
MANHOURS - COMMUNICATION & TRANSPORTATION	MCOMM+TRSP
MANHOURS - TOTAL ECONOMY	ME
MANHOURS - FIN INS & REAL ESTATE INDST	MFIRE701.37
MANHOURS - FORESTRY INDST	MFSTY31.9
MANHOURS - MANUFACTURING, TOTAL	MMF
MANHOURS - MANUFACTURING DURABLES, TOTAL	MMFDR
MANHOURS - WOOD INDUSTRIES	MMFDR251.59
MANHOURS - FURNITURE & FIXTURES INDST	MMFDR261.68
MANHOURS - IRON & STEEL INDST	MMFDR291.94
MANHOURS - PRIMARY METAL INDST	MMFDR291.98
MANHOURS - NONFERROUS METAL INDST	MMFDR295.98
MANHOURS - METAL FABRICATING INDST	MMFDR301.09
MANHOURS - MACHINERY (EX ELEC MACH) INDST	MMFDR311.18
MANHOURS - TRANSPORTATION EQUIPMENT INDST	MMFDR321.29

MANHOURS - NON AUTO TRANSP EQUIP INDST
MANHOURS - MOTOR VEHICLE INDST (EX PARTS & ACC)
MANHOURS - MOTOR VEHICLE PARTS & ACC INDST
MANHOURS - ELECTRICAL PRODUCTS INDST
MANHOURS - NON METALLIC MINERAL PROD INDST
MANHOURS - MANUFACTURING NONDURABLES, TOTAL
MANHOURS - FOOD & BEVERAGE INDST
MANHOURS - TOBACCO PRODUCTS INDST
MANHOURS - RUBBER & PLASTIC PROD INDST
MANHOURS - LEATHER INDST
MANHOURS - TEXTILE INDST
MANHOURS - KNITTING & CLOTHING MILLS INDST
MANHOURS - PAPER & ALLIED INDST
MANHOURS - PRINTING, PUBLISHING & ALLIED INDST
MANHOURS - PETROLEUM & COAL PRODUCTS INDST
MANHOURS - CHEMICAL & CHEMICAL PRODUCTS INDST
MANHOURS - MISCELLANEOUS MANUFACTURING INDST
MANHOURS - MINING, TOTAL
MANHOURS - COAL MINING INDST
MANHOURS - CRD PET, NATL GAS & SRVS INCID TO MIN
MANHOURS - METAL MINING INDST
MANHOURS - NON METAL MINING (EX COAL) INDST
MANHOURS - SERVICES
MANHOURS - WHOLESALE & RETAIL TRADE INDST
MANHOURS - UTILITY INDST
RDP, PUBLIC ADMINISTRATION

MMFDR321+326.9
MMFDR323.24
MMFDR325
MMFDR331.39
MMFDR351.59
MMEND
MMEND101.09
MMEND151.53
MMEND162.65
MMEND172.79
MMEND181.89
MMEND231.49
MMEND271.74
MMEND286.89
MMEND365.69
MMEND372.79
MMEND391.99
MMI
MMICL61
MMICP64+96.9
MMIMM51.9
MMINM71.87
MSV
MTRAD602.99
MUTIL572.79
XGPA902.51

E
E
NDUMMY58
NDUMMY64

VARIABLES EXOGENOUS TO THE EMPLOYMENT BLOCK

DUMMY VARIABLE - EMPLOYMENT BLOCK
DUMMY VARIABLE - EMPLOYMENT BLOCK

VARIABLES ENDOGENOUS TO THE EMPLOYMENT BLOCK (BOTH BEHAVIOURAL & IDENTITIES)

EMPLOYMENT - AGRICULTURE, FISH & TRAPPING INDST	NAGFTL21+41.7	=(MAGFTL21+41.7 / (HAGFTL21+41.7 * 52)) * 1000
EMPLOYMENT - CONSTRUCTION	NCNST	=(MCNST / (HCNST * 52)) * 1000
EMPLOYMENT - COMMUNICATION & TRANSPORTATION	NCOMMTTRSP	=(MCOMMTTRSP / (HCOMMTTRSP * 52)) * 1000
EMPLOYMENT - FIN INS & REAL ESTATE INDST	NFIRE701.37	=(MFIRE701.37 / (HFIRE701.37 * 52)) * 1000
EMPLOYMENT - FORESTRY INDST	NFSTY31.9	=(MFSTY31.9 / (HFSTY31.9 * 52)) * 1000
EMPLOYMENT - WOOD INDST	NMFDR251.59	=(MMFDR251.59 / (HMFDR251.59 * 52)) * 1000
EMPLOYMENT - FURNITURE & FIXTURES INDST	NMFDR261.68	=(MMFDR261.68 / (HMFDR261.68 * 52)) * 1000
EMPLOYMENT - IRON & STEEL INDST	NMFDR291.94	=(MMFDR291.94 / (HMFDR291.94 * 52)) * 1000
EMPLOYMENT - NONFERROUS METAL INDST	NMFDR295.98	=(MMFDR295.98 / (HMFDR295.98 * 52)) * 1000
EMPLOYMENT - PRIMARY METAL INDST	NMFDR291.98	=(MMFDR291.98 / (HMFDR291.98 * 52)) * 1000
AVE WKLY HRS - PRIMARY METAL INDST	NMFDR291.98	=(MMFDR291.98 / (HMFDR291.98 * 52)) * 1000
EMPLOYMENT - METAL FABRICATING INDST	NMFDR301.09	=(MMFDR301.09 / (HMFDR301.09 * 52)) * 1000
EMPLOYMENT - MACHINERY (EX ELEC MACH) INDST	NMFDR311.18	=(MMFDR311.18 / (HMFDR311.18 * 52)) * 1000
EMPLOYMENT - NONAUTO TRANSP EQUIP INDST	NMFDR321+326.29	=(MMFDR321+326.29 / (HMFDR321+326.29 * 52)) * 1000
EMPLOYMENT - MOTOR VEHICLE INDST (EX PARTS & ACC)	NMFDR323.24	=(MMFDR323.24 / (HMFDR323.24 * 52)) * 1000
EMPLOYMENT - MOTOR VEHICLE PARTS & ACC INDST	NMFDR325	=(MMFDR325 / (HMFDR325 * 52)) * 1000
EMPLOYMENT - TRANSPORTATION EQUIPMENT INDST	NMFDR321.29	=(MMFDR321.29 / (HMFDR321.29 * 52)) * 1000
AVE WKLY HRS - TRANSPORTATION EQUIPMENT INDST	NMFDR321.29	=(MMFDR321.29 / (HMFDR321.29 * 52)) * 1000
EMPLOYMENT - ELECTRICAL PRODUCTS INDST	NMFDR331.39	=(MMFDR331.39 / (HMFDR331.39 * 52)) * 1000
EMPLOYMENT - ELECTRICAL PRODUCTS INDST	NMFDR351.59	=(MMFDR351.59 / (HMFDR351.59 * 52)) * 1000
EMPLOYMENT - NONMETALLIC MINERAL PROD INDST	NMFDR	=(MMFDR251.59 + NMFDR261.68 + NMFDR291.94 + NMFDR295.98 + NMFDR301.09 + NMFDR311.18 + NMFDR321+326.29 + NMFDR323.24 + NMFDR325 + NMFDR331.39 + NMFDR351.59) / 52
EMPLOYMENT - MANUFACTURING DURABLES, TOTAL	NMFDR	=(MMFDR / NMFDR / 52) * 1000
AVE WKLY HRS - MANUFACTURING DURABLES, TOTAL	NMFDR	=(MMFDR / NMFDR / 52) * 1000
EMPLOYMENT - FOOD & BEVERAGE INDST	NMFND101.09	=(MMFND101.09 / (HMFND101.09 * 52)) * 1000
EMPLOYMENT - TOBACCO PRODUCTS INDST	NMFND151.53	=(MMFND151.53 / (HMFND151.53 * 52)) * 1000
EMPLOYMENT - RUBBER & PLASTIC PRODS INDST	NMFND162.65	=(MMFND162.65 / (HMFND162.65 * 52)) * 1000
EMPLOYMENT - LEATHER INDST	NMFND172.79	=(MMFND172.79 / (HMFND172.79 * 52)) * 1000
EMPLOYMENT - TEXTILE INDUSTRIES	NMFND181.89	=(MMFND181.89 / (HMFND181.89 * 52)) * 1000
EMPLOYMENT - KNITTING & CLOTHING MILLS INDST	NMFND231.49	=(MMFND231.49 / (HMFND231.49 * 52)) * 1000
EMPLOYMENT - PAPER & ALLIED INDST	NMFND271.74	=(MMFND271.74 / (HMFND271.74 * 52)) * 1000
EMPLOYMENT - PRINTING, PUBLISHING & ALLIED INDST	NMFND286.89	=(MMFND286.89 / (HMFND286.89 * 52)) * 1000
EMPLOYMENT - PETROLEUM & COAL PRODUCTS INDST	NMFND365.69	=(MMFND365.69 / (HMFND365.69 * 52)) * 1000
EMPLOYMENT - CHEMICAL & CHEMICAL PRODUCTS INDST	NMFND372.79	=(MMFND372.79 / (HMFND372.79 * 52)) * 1000
EMPLOYMENT - MISCELLANEOUS MANUFACTURING INDST	NMFND391.99	=(MMFND391.99 / (HMFND391.99 * 52)) * 1000
EMPLOYMENT - MANUFACTURING NONDURABLES, TOTAL	NMFND	=(MMFND101.09 + NMFND151.53 + NMFND162.65 + NMFND172.79 + NMFND181.89 + NMFND231.49 + NMFND271.74 + NMFND286.89 + NMFND365.69 + NMFND372.79 + NMFND391.99) / 52
AVE WKLY HRS - MANUFACTURING NONDURABLES, TOTAL	NMFND	=(MMFND / NMFND / 52) * 1000
EMPLOYMENT - MANUFACTURING, TOTAL	NMFND	=(MMFND / NMFND / 52) * 1000
AVE WKLY HRS - MANUFACTURING, TOTAL	NMFND	=(MMFND / NMFND / 52) * 1000
EMPLOYMENT - COAL MINING INDST	NMICL61	=(MMICL61 / (HMICL61 * 52)) * 1000
EMPLOYMENT - CRD PET, NATL GAS & SRVS, INCID TO MIN	NMICP64+96.9	=(MMICP64+96.9 / (HMICP64+96.9 * 52)) * 1000
EMPLOYMENT - METAL MINING INDST	NMIMM51.9	=(NMIMM51.9 / (HNMIMM51.9 * 52)) * 1000
EMPLOYMENT - NONMETAL MINING (EX COAL) INDST	NMINW71.87	=(NMINW71.87 / (HNMINW71.87 * 52)) * 1000
EMPLOYMENT - MINING, TOTAL	NMI	=(NMICL61 + NMICP64+96.9 + NMIMM51.9 + NMINW71.87) / 52
AVE WKLY HRS - MINING, TOTAL	NMI	=(NMI / NMI / 52) * 1000
EMPLOYMENT - SERVICES	NSV	=(MSV / (HSV * 52)) * 1000
EMPLOYMENT - WHOLESALE & RETAIL TRADE INDST	NTRAD602.99	=(MTRAD602.99 / (HTRAD602.99 * 52)) * 1000
EMPLOYMENT - WHOLESALE & RETAIL TRADE INDST	NUTIL572.79	=(MUTIL572.79 / (HUTIL572.79 * 52)) * 1000
EMPLOYMENT - UTILITY INDST	NUTIL572.79	=(MUTIL572.79 / (HUTIL572.79 * 52)) * 1000

EMPLOYMENT - PUBLIC ADMINISTRATION (INCL DEF)
EMPLOYMENT - TOTAL ECONOMY

AVE WKLY HRS - TOTAL ECONOMY

NGPA
NE

HE

$$\begin{aligned} B &= \text{NAGFT1.21+41.7 + NCNST + NCOMM+TRSP + NFIRE701.37} \\ &\quad + \text{NESTY31.9 + NMF + NMI + NSV + NTRAD602.99} \\ &\quad + \text{NUTIL572.79 + NGPA} \\ &= (\text{ME / NE / 52}) * 1000 \end{aligned}$$

Equation No.: 268

Name: Employment -- Public Administration (Including Defence)

Mnemonic: NGPA

Period: 1952-74

NGPA / XGPA902.51

=	+	0.08468	
		(8.05)	
	+	0.01111	NDUMMY58
		(4.52)	
	-	0.00478	NDUMMY64
		(2.90)	
	-	257.45300	1 / DPOP
		(1.49)	

$\bar{R}^2 = 0.862$

SEE = 0.003

D.W. = 0.191

RHO = 0.786

WAGE RATE AND WAGEBILL
AT THE INDUSTRY LEVEL

Personal income is made up of a number of items, one of which is wagebill. Wagebill is the total value of wages and salaries paid in the economy. It is the largest component of personal income. Other items included in personal income are farm income, income of nonfarm unincorporated business, interest income, dividend income, income from miscellaneous investments, and transfer income. Wagebill is generated by summing up the industry specific wagebills determined at the level of detail outlined in Table 1 with three exceptions. As with manhours, we combine a number of industries due to data limitations. Industry 30 and industry 31 (communications and transportation), industry 36 through 40 (the service sector) and industries 41 through 44 (public administration) have been combined. The industry wagebills are determined by a set of identities which depend on industry specific manhours worked and industry specific average hourly compensation paid. The average hourly compensation indices include straight time, overtime, and supplementary labour income. Within the context of CANDIDE Model 2.0, wages are modelled at the industry specific level.

The determination of industry specific wages in CANDIDE Model 2.0 is not only novel but also subtle. In each of the industry specific equations, there are two recurring right hand side variables. These include an indicator of inflation expectations and an indicator of labour market tightness. We have also introduced in some cases U.S. wage rates and industry specific productivity as right hand side variables. The proxy for labour market tightness is the unemployment rate associated with prime age working males.

The expectations variable enters the wage equations (which have been estimated in percent change form) in all cases with a coefficient that is not significantly different from one. The unemployment rate of prime age working males enters as a reciprocal to capture the Phillips Curve effect.

The inflation expectation variable is influenced by past rates of change in the consumer price index and past rates of change in the money supply (M1). The determinants of money supply are outlined in the section dealing with the financial block. In anticipating our discussion, it is useful to mention that money supply growth (M1) depends in part upon the deficit position of the federal government. Deficit financing influences the rate of growth of money supply. This eventually affects inflation expectations, which

will influence wage formation regardless of the unemployment rate. The weight of the CPI in the inflation expectation equation is 0.7; the weight associated with M1 is 0.3.

In the discussion of final demand price determination we indicate that the consumer price index is influenced by foreign prices and domestic cost including indirect tax rates and profit markups. We also show in preceeding sections that both labour demand and labour supply are influenced directly by the real wage. Consequently, wages and prices have an indirect impact on the unemployment rate and thereby influence the measure of labour market tightness used in the industry specific wage equations.

In summary, wage formation within CANDIDE 2.0 is influenced indirectly by (1) the conduct of monetary policy, (2) domestic indirect tax rates (3) profit markups (4) foreign prices and foreign wages, (5) domestic productivity developments, and (6) labour market conditions.

Wage rate determination in the public sector is generated from a different accounting framework than that used for the private sector. In the industry price block, yet to be discussed, there are seven prices associated with the noncommercial and public administration sector. These industries, as outlined previously in the discussion of

final demand conversion, have as inputs only original factor contribution (value added). The deflators associated with these sectors are in fact indices of wage rates. We choose to model the seven prices associated with the value added inputs in the noncommercial sector as wage rates. It is here where government wages are modelled. These seven sector prices then pass through the final demand price converter (yet to be discussed) and influence the final demand deflators associated with service purchases (employment) by level of government. These final demand deflators are combined with real service purchases to determine nominal values. The nominal values are in fact wagebill by level of government which is then aggregated to obtain wagebill for the public administration sector. Wagebill for public administration is then combined with manhours for public administration, in an identity, to obtain an estimate of average hourly compensation paid in the public sector. For this reason, the wage rate associated with public administration appears to be determined by an identity. This is the case. However, the deflators associated with output at the government sector level are in fact the public sector wage equations in Candide Model 2.0. The identity is only the end product of (1) working the government sector prices through to the final demand level, (2) combining these deflators with the real values of service purchases by level of government

(3) deriving from this calculation an estimate of wagebill in public administration and (4) combining this with manhours worked in the public administration sector to arrive at an estimate of average hourly compensation. Rather than discuss the determinants of public administration wage formation in this section we will include it in the discussion of sector price determination.

WAGEBILL BLOCK

VARIABLES DETERMINED OUTSIDE THE WAGEBILL BLOCK

CONSUMER PRICE INDEX	CPI
TOTAL LABOUR FORCE	DLF
MALE LABOUR FORCE - AGE GROUP 25-54	DMLF25.54
TOTAL POPULATION CANADA	DPOP
DUMMY VARIABLE - MAN-HOURS BLOCK	DUMMY65
UNEMPLOYMENT RATE	DURATE
MONEY SUPPLY - NARROW DEFINITION	FMONEYSUPPLY
FED GOVT EXPND - CURRT GDS & SRVS, DEF CIV WAGES & SAL	GEF.CGS.DCWSS
FED GOVT EXPND - CURRT GDS & SRVS, DEF MILITARY PAY	GEF.CGS.DMPS
FED GOVT EXPND - CURRT GDS & SRVS, NONDEFENCE WAGES & SAL	GEF.CGS.NDWSS
LOCAL GOVT EXPND - GDS & SRVS, MUNICIPAL (EXCL SCHOOLS)	GEL.CGS.WMS
PROV GOVT EXPND - GDS & SRVS, WAGES & SALARIES SLI	GEP.CGS.WSS
MANHOURS - AGRIC, FISH & TRAP INDST	MAGFT1.21+41.7
MANHOURS - CONSTRUCTION INDST	MCNST
MANHOURS - COMMUNICATION & TRANSPORTATION INDST	MCOMM+TRSP
MANHOURS - TOTAL ECONOMY	ME
MANHOURS - FIN. INS. & REAL ESTATE INDST	MEIRE701.37
MANHOURS - FORESTRY INDUSTRIES	MFSTY31.9
MANHOURS - PUBLIC ADMINISTRATION (INCL DEF)	MGPA
MANHOURS - MANUFACTURING DURABLES, TOTAL	MMFDR
MANHOURS - MANUFACTURING, TOTAL	MMF
MANHOURS - WOOD INDUSTRIES	MMFDR251.59
MANHOURS - FURNITURE & FIXTURE INDST	MMFDR361.68
MANHOURS - IRON & STEEL INDST	MMFDR291.94
MANHOURS - PRIMARY METAL INDST	MMFDR291.94
MANHOURS - NONFERROUS METAL INDST	MMFDR291.98
MANHOURS - METAL FABRICATING INDST	MMFDR295.98
MANHOURS - MACHINERY (EX ELEC MACH) INDST	MMFDR301.09
MANHOURS - TRANSPORTATION EQUIP INDST	MMFDR311.18
MANHOURS - NON AUTO TRANSP EQUIP INDST	MMFDR321.29
MANHOURS - MOTOR VEHICLE INDST (EX PARTS & ACC)	MMFDR321+326.29
MANHOURS - MOTOR VEHICLE PARTS & ACC INDST	MMFDR323.24
MANHOURS - ELECTRICAL PROD INDST	MMFDR325
MANHOURS - NON METALLIC MINERAL PROD INDST	MMFDR331.39
MANHOURS - MANUFACTURING NONDURABLES, TOTAL	MMFDR351.59
MANHOURS - FOOD & BEVERAGE INDST	MMEND
MANHOURS - TOBACCO PRODUCTS INDUSTRIES	MMEND101.09
MANHOURS - RUBBER & PLASTIC PRODS INDST	MMEND151.53
MANHOURS - LEATHER INDUSTRIES	MMEND162.65
MANHOURS - TEXTILE INDUSTRIES	MMEND172.79
MANHOURS - KNITTING & CLOTHING MILLS INDST	MMEND181.89
MANHOURS - PAPER & ALLIED INDST	MMEND231.49
MANHOURS - PRINT, PUBLISH & ALLIED INDST	MMEND271.74
MANHOURS - PETROLEUM & COAL PROD INDST	MMEND286.89
MANHOURS - CHEMICAL & CHEMICAL PROD INDST	MMEND365.69
MANHOURS - MISCELLANEOUS MANUFACTURING INDST	MMEND372.79
MANHOURS - MINING, TOTAL	MMEND391.99
MANHOURS - COAL MINING INDST	MMI
MANHOURS - CRD. PET, NATL GAS & SRVS INCID TO MIN	MMICL61
MANHOURS - METAL MINING INDST	MMICP64+96.9
MANHOURS - NON METAL MINING (EX COAL) INDST	MMIMM51.9
MANHOURS - SERVICES	MMINW71.87
	MSV

MANHOURS - WHOLESALE & RETAIL TRADE INDST
MANHOURS - UTILITY INDST
EMPLOYMENT - MANUFACTURING, TOTAL
EMPLOYMENT - IRON & STEEL INDST
EMPLOYMENT - MINING, TOTAL
RDP, AGRIC FISH & TRAP INDST
RDP, CONSTRUCTION INDUSTRIES
RDP, COMMUNICATION INDUSTRIES
RDP, FIN INS & REAL ESTATE INDST
RDP, FORESTRY INDUSTRIES
RDP, COAL MINING INDUSTRIES
RDP, METAL MINING INDUSTRIES
RDP, NON METAL MINING (EX COAL) INDST
RDP, TRANSPORTATION INDST
RDP, UTILITY INDST
COMPEN PER MANHR, MFG, DUR TRANSP EQUIP MOT VEH&PRTS
COMPEN PER MANHR, MFG, NONDUR FOOD & KINDRED PROD
COMPEN PER MANHR, MINING

VARIABLES EXOGENOUS TO THE WAGEBILL BLOCK

DUMMY VARIABLE - WAGEBILL BLOCK
DUMMY VARIABLE - WAGEBILL BLOCK

DUMMY70 E
DUM7374 E

MTRAD602.99
MUTIL572.79
NMF
NMEDR291.94
NMI
XAGFT1.21+41.7
XCNST404.21
XCOMM543.48
XFIRE701.37
XFSTY31.9
XMICL61
XMIMM51.9
XMINM71.87
XTRSP501.27
XUTIL572.79
ZUSWRCMED371\$
ZUSWRCMEN20\$
ZUSWRCMG\$

INFLATION EXPECTATIONS		- MALES 25-54	
UNEMPLOYMENT RATE -	AGRIC, FISH & TRAP INDST	DMURAT25.54	.CPTB
AVE HRLY EARN\$ -	CONSTRUCTION	WAGFTL21+41.	
AVE HRLY EARN\$ -	COMMUNICATION & TRANSPORTATION	WCNST	
AVE HRLY EARN\$ -	FIN INS & REAL ESTATE INDST	WCONM+TRSP	
AVE HRLY EARN\$ -	FORESTRY INDST	WFIRE701.37	
AVE HRLY EARN\$ -	WOOD INDST	WFSY31.9	
AVE HRLY EARN\$ -	FURNITURE & FIXTURE INDST	WMFDR251.59	
AVE HRLY EARN\$ -	IRON & STEEL INDST	WMFDR261.68	
AVE HRLY EARN\$ -	NONFERROUS METAL INDST	WMFDR291.94	
AVE HRLY EARN\$ -	METAL FABRICATING INDST	WMFDR295.98	
AVE HRLY EARN\$ -	MACH (EX ELEC MACH) INDST	WMFDR301.09	
AVE HRLY EARN\$ -	NONAUTO TRANSP EQUIP INDST	WMFDR311.18	
AVE HRLY EARN\$ -	MOTOR VEH INDST (EX PARTS & ACC)	WMFDR321+32	
AVE HRLY EARN\$ -	MOTOR VEH PARTS & ACC INDST	WMFDR323.24	
AVE HRLY EARN\$ -	ELECTRICAL PROD INDST	WMFDR325	
AVE HRLY EARN\$ -	NONMETALLIC MINERAL PROD INDST	WMFDR331.39	
AVE HRLY EARN\$ -	FOOD & BEVERAGE INDST	WMFDR351.59	
AVE HRLY EARN\$ -	TABACCO PROD INDST	WMFND101.09	
AVE HRLY EARN\$ -	RUBBER & PLASTIC PROD INDST	WMFND151.53	
AVE HRLY EARN\$ -	LEATHER INDST	WMFND162.65	
AVE HRLY EARN\$ -	TEXTILE INDST	WMFND172.79	
AVE HRLY EARN\$ -	KNITTING & CLOTHING MILLS INDST	WMFND181.89	
AVE HRLY EARN\$ -	PAPER & ALLIED INDST	WMFND231.49	
AVE HRLY EARN\$ -	PRINT, PUBLISH & ALLIED INDST	WMFND271.74	
AVE HRLY EARN\$ -	PETROLEUM & COAL PROD INDST	WMFND286.89	
AVE HRLY EARN\$ -	CHEMICAL & CHEMICAL PROD INDST	WMFND365.69	
AVE HRLY EARN\$ -	MISC MANUFACTURING INDST	WMFND372.79	
AVE HRLY EARN\$ -	COAL MINING INDST	WMFND391.99	
AVE HRLY EARN\$ -	CRD PET NATL GAS & SRVS INCID TO MIN	WMI CL61	
AVE HRLY EARN\$ -	METAL MINING INDST	WMI CE64+96.9	
AVE HRLY EARN\$ -	NONMETAL MINING (EX COAL) INDST	WMIN701.9	
AVE HRLY EARN\$ -	SERVICES	WMIN71.87	
AVE HRLY EARN\$ -	WHOLESALE & RETAIL TRADE INDST	WSV	
AVE HRLY EARN\$ -	UTILITY INDUSTRIES	WTRAD602.99	
AVE HRLY EARN\$ -	WAGEBILL ADJUSTING ENTRY - MANUFACTURING	WUTL1572.79	
AVE HRLY EARN\$ -	WAGEBILL ADJUSTING ENTRY - MINING	WBMAFADJ	
AVE HRLY EARN\$ -	PUBLIC ADMINISTRATION (INCL DEF)	WBMAIDJ	
AVE HRLY EARN\$ -	AGRICULTURE, FISH & TRAPPING	WGPA	
WAGEBILL -	CONSTRUCTION	WBAGFTL21+41.	
WAGEBILL -	COMMUNICATION & TRANSPORTATION	WBCNST	
WAGEBILL -	FIN INS & REAL ESTATE INDST	WBCONM+TRSP	
WAGEBILL -	FORESTRY INDUSTRIES	WBFI RE701.37	
WAGEBILL -	WOOD INDST	WBFSY31.9	
WAGEBILL -	FURNITURE & FIXTURE INDST	WBMDR251.59	
WAGEBILL -	IRON & STEEL INDST	WBMDR261.68	
WAGEBILL -	NONFERROUS METAL INDST	WBMDR291.94	
WAGEBILL -	METAL FABRICATING INDST	WBMDR295.98	
WAGEBILL -	MACHINERY (EX ELEC MACH) INDST	WBMDR301.09	
WAGEBILL -	NONAUTO TRANSP EQUIP INDST	WBMDR311.18	
WAGEBILL -	MOTOR VEHICLE PARTS & ACC INDST	WBMDR321+32	
WAGEBILL -	MOTOR VEHICLE PARTS & ACC INDST	WBMDR323.24	

WAGEBILL - ELECTRICAL PROD INDST	WBMEFDR331.39
WAGEBILL - NONMETALLIC MINERAL PROD INDST	WBMEFDR351.59
WAGEBILL - FOOD & BEVERAGE INDST	WBMFND101.09
WAGEBILL - TOBACCO PROD INDST	WBMFND151.53
WAGEBILL - RUBBER & PLASTIC PROD INDST	WBMFND162.65
WAGEBILL - LEATHER INDST	WBMFND172.79
WAGEBILL - TEXTILE INDST	WBMFND181.89
WAGEBILL - KNITTING & CLOTHING MILLS INDST	WBMFND231.49
WAGEBILL - PAPER & ALLIED INDST	WBMFND271.74
WAGEBILL - PRINT, PUBLISH & ALLIED INDST	WBMFND286.89
WAGEBILL - PETROLEUM & COAL PROD INDST	WBMFND365.69
WAGEBILL - CHEMICAL & CHEMICAL PROD INDST	WBMFND372.79
WAGEBILL - MISC MANUFACTURING INDST	WBMFND391.99
WAGEBILL - COAL MINING INDST	WBMICL61
WAGEBILL - CRD PET, NATL GAS & SRVS INCID TO MIN	WBMICP64+96.9
WAGEBILL - METAL MINING INDST	WBMTMMS1.9
WAGEBILL - NONMETAL MINING (EX COAL) INDST	WBMTMMS1.9
WAGEBILL - SERVICES	WBMTMMS1.9
WAGEBILL - WHOLESALE & RETAIL TRADE INDST	WBMTMMS1.9
WAGEBILL - UTILITY INDST	WBMTMMS1.9
WAGEBILL - PUBLIC ADMINISTRATION (INCL DEF)	WBMTMMS1.9
WAGEBILL - PRIMARY METAL INDST	WBMTMMS1.9
WAGEBILL - TRANSPORTATION EQUIP INDST	WBMTMMS1.9
WAGEBILL - MANUFACTURING DURABLES, TOTAL	WBMTMMS1.9
WAGEBILL - MANUFACTURING NONDURABLES, TOTAL	WBMTMMS1.9
WAGEBILL - MINING, TOTAL	WBMTMMS1.9
WAGEBILL - TOTAL	WBMTMMS1.9
AVE HRLY EARNs - PRIMARY METAL INDST	WBMTMMS1.9
AVE HRLY EARNs - TRANSPORTATION EQUIP INDST	WBMTMMS1.9
AVE HRLY EARNs - MANUFACTURING DURABLES, TOTAL	WBMTMMS1.9
AVE HRLY EARNs - MANUFACTURING NONDURABLES, TOTAL	WBMTMMS1.9
AVE HRLY EARNs - MINING, TOTAL	WBMTMMS1.9
AVE HRLY EARNs - TOTAL ECONOMY	WBMTMMS1.9
WBMF	WBMTMMS1.9
WBMI	WBMTMMS1.9
WBTOT	WBMTMMS1.9
WMEFDR291.98	WBMTMMS1.9
WMEFDR321.29	WBMTMMS1.9
WMFDR	WBMTMMS1.9
WMF	WBMTMMS1.9
WMI	WBMTMMS1.9
W	WBMTMMS1.9

=	(WMFDR331)-39	* MMFDR331-39	* MMFDR331-39	
=	(WMFDR351)-59	* MMFDR351-59	* MMFDR351-59	
=	(WMFDR101)-09	* MMFDR101-09	* MMFDR101-09	
=	(WMFDR151)-53	* MMFDR151-53	* MMFDR151-53	
=	(WMFDR162)-65	* MMFDR162-65	* MMFDR162-65	
=	(WMFDR172)-79	* MMFDR172-79	* MMFDR172-79	
=	(WMFDR181)-89	* MMFDR181-89	* MMFDR181-89	
=	(WMFDR231)-49	* MMFDR231-49	* MMFDR231-49	
=	(WMFDR271)-74	* MMFDR271-74	* MMFDR271-74	
=	(WMFDR286)-89	* MMFDR286-89	* MMFDR286-89	
=	(WMFDR365)-69	* MMFDR365-69	* MMFDR365-69	
=	(WMFDR372)-79	* MMFDR372-79	* MMFDR372-79	
=	(WMFDR391)-99	* MMFDR391-99	* MMFDR391-99	
=	(WM1CL61 * MM1CL61)			
=	(WM1CP64)+96.9	* MM1CP64+96.9	* MM1CP64+96.9	
=	(WM1MH31.9	* MM1MH31.9		
=	(WM1NM71.87	* MM1NM71.87		
=	(WSV * MSV)			
=	(WTRAD602)-99	* WTRAD602-99	* WTRAD602-99	
=	(WU1L572)-79	* MTU1L572-79	* MTU1L572-79	
B				
=	(WBMFDR291)-94	* WBMFDR295-94		
=	(WBMFDR321)+326.9	* WBMFDR321-326.9	* WBMFDR321-326.9	
=	(WBMFDR251)-59	* WBMFDR261-68	* WBMFDR261-68	
=	(WBMFDR301)-39	* WBMFDR311	* WBMFDR311	
=	(WBMFDR331)-39	* WBMFDR3351	* WBMFDR3351	
=	(WBMFDR101)-09	* WBMFDR151-53	* WBMFDR151-53	
=	(WBMFDR172)-79	* WBMFDR181	* WBMFDR181	
=	(WBMFDR271)-74	* WBMFDR286	* WBMFDR286	
=	(WBMFDR372)-79	* WBMFDR391	* WBMFDR391	
=	(WBMFDR * WBMFDR	* WBMFDR	* WBMFDR	
=	(WB1CL61 + WB1CMCP64)+96.9			
=	(WB1ADJ			
=	(WBAGFI1.21)+41.7	* WBCNST +		
=	(WBIFR702)-37	* WBFTY31.9		
=	(WETRAD602)-99	* WBUTY1572		
=	(WBMDR291)-98	* MMFDR291-98	* MMFDR291-98	
=	(WBMDR321)-29	* MMFDR321-29	* MMFDR321-29	
=	(WBMDR * MMFDR			
=	(WBMDR * MMFDR			
=	(WBMF * MMF			
=	(WBMI * ME			
=	(WBTOT * ME			

Equation No.: 2716

Name: Inflation Expectations

Mnemonic: .CPIE

Period: 1953-76

.CPI

= - 0.46550
(0.94)

+ 0.69596 ((CPI(-1) / CPI(-2)) - 1) * 100
(5.76)

+ 0.03949 (((FMONEYSUPPLY(-1) / FMONEYSUPPLY(-2)) - 1) * 100)
(0.71)

+ 0.23324 (((FMONEYSUPPLY(-2) / FMONEYSUPPLY(-3)) - 1) * 100)
(3.83)

$\bar{R}^2 = 0.829$

SEE = 1.2707

D.W. = 1.676

Equation No.: 2717

Name: Unemployment Rate -- Males 25-54

Mnemonic: DMURATE25.54

Period: 1953-75

DMURATE25.54

= - 37.96190
(6.02)

+ 154.21900 (DMLF25.54 / DLF)
(5.56)

- 154.24400 ((DMLF25.54 / DLF) **2)
(5.12)

+ 0.65545 DURATE
(3.06)

+ 0.034825 (DURATE **2)
(1.71)

$\bar{R}^2 = 0.989$

SEE = 0.12999

D.W. = 1.428

Equation No.: 356(Primary)

Name: Average Hourly Earnings -- Agriculture

Mnemonic: WAGFT1.21+41.7

Period: 1953-74

$\ln(\text{WAGFT1.21+41.7})$

= - 2.32476
(42.87)

+ 0.06483 .CPIE
(2.92)

+ 1.15321 $\ln(\text{XAGFT1.21+41.7} / \text{MAGFT1.21+41.7})$
(8.54)

+ 0.22168 DUMMY70
(2.18)

$\bar{R}^2 = 0.943$

SEE = 0.139

D.W. = 2.213

Equation No.: 356(Secondary)

Name: Average Hourly Earnings -- Agriculture

Mnemonic: WAGFT1.21+41.7

Period: 1953-75

((WAGFT1.21+41.7 / WAGFT1.21+41.7(-1)) - 1) * 100

= + 3.71626
(0.73)

+ 1.32953 .CPIE
(2.83)

+ 7.31198 1 / DMURATE25.54
(0.35)

$\overline{R}^2 = .219$

SEE = 5.728

D.W. = 1.898

Equation No.: 357(Primary)

Name: Average Hourly Earnings -- Construction

Mnemonic: WCNST

Period: 1954-75

ln(WCNST)

= - 2.50687
(6.10)

+ 1.94712
(7.56)

ln(XCNST404.21(-1) / MCNST(-1))

+ 0.05587
(4.23)

.CPIE

+ 0.70248
(1.88)

1 / DMURATE25.54(-1)

+ 0.26198
(3.44)

DUMMY70

$\bar{R}^2 = 0.961$

SEE = 0.096

D.W. = 1.569

Equation No.: 357(Secondary)

Name: Average Hourly Earnings -- Construction

Mnemonic: WCNST

Period: 1954-75

$((WCNST / WCNST(-1)) - 1) * 100$

= + 1.85493
(0.44)

+ 1.10851 .CPIE
(1.97)

+ 6.51389 1 / DMURATE25.54(-1)
(0.36)

+ 3.38409 DUMMY70
(0.97)

$\overline{R}^2 = .379$

SEE = 4.741

D.W. = 2.084

Equation No.: 358(Primary)

Name: Average Hourly Earnings -- Transportation and Communications

Mnemonic: WCOMM+TRSP

Period: 1954-74

((WCOMM+TRSP / WCOMM+TRSP(-1)) - 1) * 100

= - 5.94752
(2.35)

+ 1.28090 .CPIE
(4.79)

+ 23.62910 1 / DMURATE25.54(-1)
(2.55)

+ 0.68128 (((((XTRSP501.27 + XCOMM543.48) / MCOMM+TRSP)
(3.78) / ((XTRSP501.27(-1) + XCOMM543.48(-1)) /
MCOMM+TRSP(-1))) - 1) * 100)

$\bar{R}^2 = 0.634$

SEE = 2.527

D.W. = 1.894

Equation No.: 358(Secondary)

Name: Average Hourly Earnings -- Transportation and Communications

Mnemonic: WCOMM+TRSP

Period: 1954-75

$((\text{WCOMM+TRSP} / \text{WCOMM+TRSP}(-1)) - 1) * 100$

= - 1.84232
(0.64)

+ 1.10957 .CPIE
(4.10)

+ 21.85330 1 / DMURATE25.54(-1)
(1.83)

$\overline{R^2} = .491$

SEE = 3.261

D.W. = 2.565

Equation No.: 359

Name: Average Hourly Earnings -- Finance, Insurance and Real Estate

Mnemonic: WFIRE701.37

Period: 1955-74

$((WFIRE701.37 / WFIRE701.37(-1)) - 1) * 100$

= + 3.75017
(3.09)

+ 0.43669 .CPIE
(1.08)

- 0.02612 $((DMURATE25.54(-1) / DMURATE25.54(-2)) - 1) * 100$
(0.92)

+ 4.65459 DUMMY70
(2.29)

+ 0.67050 $((((XFIRE701.37 / MFIRE701.37) / (XFIRE701.37(-1) /$
(2.84) $MFIRE701.37(-1))) - 1) * 100$

$\bar{R}^2 = 0.635$

SEE = 2.703

D.W. = 2.036

Equation No.: 360(Primary)

Name: Average Hourly Earnings -- Forestry

Mnemonic: WFSTY31.9

Period: 1954-75

ln(WFSTY31.9)

= + 0.18343
(2.41)

+ 0.66600 ln(XFSTY31.9(-1) / MFSTY31.9(-1))
(11.98)

+ 0.05383 .CPIE
(6.15)

- 0.01961 DMURATE25.54(-1)
(1.66)

+ 0.24975 DUMMY70
(4.92)

$\bar{R}^2 = 0.984$

SEE = 0.064

D.W. = 2.248

Equation No.: 360(Secondary)

Name: Average Hourly Earnings -- Forestry

Mnemonic: WFSTY31.9

Period: 1953-75

$((WFSTY31.9 / WFSTY31.9(-1)) - 1) * 100) - .CPIE$

= - 5.74217
(0.87)

+ 37.44230 1 / DMURATE25.54
(1.38)

+ 6.31912 DUMMY70
(1.65)

$\bar{R}^2 = .087$

SEE = 7.492

D.W. = 2.057

Equation No.: 361

Name: Average Hourly Earnings -- Wood

Mnemonic: WMFDR251.59

Period: 1958-75

$((\text{WMFDR251.59} / \text{WMFDR251.59}(-1)) - 1) * 100$

= - 1.77660
(1.62)

+ 0.98758 .CPIE
(3.33)

- 0.37390 (.CPIE * DUMMY70)
(1.18)

+ 5.05407 DUMMY70
(3.71)

+ 21.56140 1 / DMURATE25.54(-1)
(3.34)

$\bar{R}^2 = 0.929$

SEE = 1.043

D.W. = 1.666

Equation No.: 362

Name: Average Hourly Earnings -- Furniture and Fixtures

Mnemonic: WMFDR261.68

Period: 1958-75

((WMFDR261.68 / WMFDR261.68(-1)) - 1) * 100

= - 0.46989
(0.29)

+ 1.16142 .CPIE
(7.15)

+ 12.30480 1 / DMURATE25.54(-1)
(1.58)

$\bar{R}^2 = 0.811$

SEE = 1.6027

D.W. = 1.915

Equation No.: 363(Primary)

Name: Average Hourly Earnings -- Iron and Steel

Mnemonic: WMFDR291.94

Period: 1957-75

ln(WMFDR291.94)

= - 3.69968
(3.68)

+ 0.02780 .CPIE
(2.06)

+ 1.12266 ln(NMFDR291.94)
(4.61)

+ 0.25450 DUMMY70
(3.91)

$\bar{R}^2 = 0.937$

SEE = 0.083

D.W. = 1.463

Equation No.: 363(Secondary)

Name: Average Hourly Earnings -- Iron and Steel

Mnemonic: WMFDR291.94

Period: 1958-75

$((\text{WMFDR291.94} / \text{WMFDR291.94}(-1)) - 1) * 100$

= + 2.48270
(2.67)

+ 1.04895 .CPIE
(5.06)

+ 13.71790 DUM7374
(8.68)

$\bar{R}^2 = .848$

SEE = 2.231

D.W. = 2.037

Equation No.: 364

Name: Average Hourly Earnings -- Nonferrous Metals

Mnemonic: WMFDR295.98

Period: 1958-75

$((\text{WMFDR295.98} / \text{WMFDR295.98}(-1)) - 1) * 100$

= - 0.17315
(0.08)

+ 1.04902 .CPIE
(4.52)

+ 11.81790 1 / DMURATE25.54(-1)
(1.07)

$\bar{R}^2 = 0.626$

SEE = 2.288

D.W. = 1.840

Equation No.: 365

Name: Average Hourly Earnings -- Metal Fabricating

Mnemonic: WMFDR301.09

Period: 1958-75

$((\text{WMFDR301.09} / \text{WMFDR301.09}(-1)) - 1) * 100$

= - 0.43164
(0.24)

+ 1.08191 .CPIE
(5.94)

+ 12.61850 1 / DMURATE25.54(-1)
(1.45)

$\bar{R}^2 = 0.750$

SEE = 1.796

D.W. = 1.675

Equation No.: 366

Name: Average Hourly Earnings -- Machinery (Excluding Electrical Machinery)

Mnemonic: WMFDR311.18

Period: 1958-75

$((\text{WMFDR311.18} / \text{WMFDR311.18}(-1)) - 1) * 100$

= + 0.39588
(0.18)

+ 0.66290 .CPIE
(2.93)

+ 16.0755 1 / DMURATE25.54(-1)
(1.49)

$\overline{R}^2 = 0.470$

SEE = 2.232

D.W. = 1.658

Equation No.: 367

Name: Average Hourly Earnings -- Nonauto Transportation Equipment

Mnemonic: WMFDR321+326.29

Period: 1958-75

$((\text{WMFDR321} + 326.29 / \text{WMFDR321} + 326.29(-1)) - 1) * 100$

= - 2.0191
(1.08)

+ 1.13817 .CPIE
(6.06)

+ 17.9053 1 / DMURATE25.54(-1)
(1.99)

$\bar{R}^2 = 0.774$

SEE = 1.853

D.W. = 2.608

Equation No.: 368

Name: Average Hourly Earnings -- Motor Vehicles
(Excluding Parts and Accessories)

Mnemonic: WMFDR323.24

Period: 1958-75

((WMFDR323.24 / WMFDR323.24(-1)) - 1) * 100

= + 1.67763
(0.79)

+ 17.32180 1 / DMURATE25.54(-1)
(1.86)

+ 3.41142 DUMMY70
(3.10)

$\bar{R}^2 = 0.379$ SEE = 2.179 D.W. = 2.088 RHO = -0.051

Equation No.: 369

Name: Average Hourly Earnings -- Motor Vehicle Parts and Accessories

Mnemonic: WMFDR325

Period: 1958-75

$((\text{WMFDR325} / \text{WMFDR325}(-1)) - 1) * 100$

= + 1.29060
(0.47)

+ 12.9110 1 / DMURATE25.54(-1)
(1.11)

+ 3.90920 DUMMY70
(2.37)

+ 0.18141 (((ZUSWRCMFD371\$(-1) / ZUSWRCMFD371\$(-2)) - 1) * 100)
(1.01)

$\bar{R}^2 = 0.409$

SEE = 2.615

D.W. = 1.671

Equation No.: 370

Name: Average Hourly Earnings -- Electrical Products

Mnemonic: WMFDR331.39

Period: 1958-75

$((\text{WMFDR331.39} / \text{WMFDR331.39}(-1)) - 1) * 100$

= - 0.34213
(0.17)

+ 1.08774 .CPIE
(5.48)

+ 10.76350 1 / DMURATE25.54(-1)
(1.13)

$\overline{R}^2 = 0.709$

SEE = 1.959

D.W. = 1.850

Equation No.: 371

Name: Average Hourly Earnings -- Nonmetallic Mineral Products

Mnemonic: WMFDR351.59

Period: 1958-75

((WMFDR351.59 / WMFDR351.59(-1)) - 1) * 100

= + 0.14399
(0.08)

+ 0.73038 .CPIE
(2.80)

+ 14.74920 1 / DMURATE25.54(-1)
(1.61)

+ 2.69375 DUMMY70
(1.99)

$\bar{R}^2 = 0.769$

SEE = 1.713

D.W. = 1.577

Equation No.: 372

Name: Average Hourly Earnings -- Food and Beverage

Mnemonic: WMFND101.09

Period: 1958-75

$((\text{WMFND101.09} / \text{WMFND101.09}(-1)) - 1) * 100$

= - 3.87831
(2.64)

+ 0.75938 .CPIE
(4.95)

+ 13.0502 1 / DMURATE25.54(-1)
(2.20)

+ 0.91467 (((ZUSWRCMFN20\$(-1) / ZUSWRCMFN20\$(-2)) - 1) * 100)
(4.83)

$\bar{R}^2 = 0.900$

SEE = 1.2211

D.W. = 2.637

Equation No.: 373

Name: Average Hourly Earnings -- Tobacco Products

Mnemonic: WMFND151.53

Period: 1958-75

((WMFND151.53 / WMFND151.53(-1)) - 1) * 100

= + 1.64832
(0.81)

+ 1.01699 .CPIE
(4.86)

+ 10.41140 1 / DMURATE25.54(-1)
(1.06)

$\bar{R}^2 = 0.624$

SEE = 2.2779

D.W. = 2.100

RHO = -0.161

Equation No.: 374

Name: Average Hourly Earnings -- Rubber and Plastic Products

Mnemonic: WMFND162.65

Period: 1958-75

$((\text{WMFND162.65} / \text{WMFND162.65}(-1)) - 1) * 100$

= + 0.19019
(0.08)

+ 1.16747 .CPIE
(4.74)

+ 7.26111 1 / DMURATE25.54(-1)
(0.62)

$\bar{R}^2 = 0.622$

SEE = 2.432

D.W. = 2.537

Equation No.: 375

Name: Average Hourly Earnings -- Leather Products

Mnemonic: WMFND172.79

Period: 1958-75

$((\text{WMFND172.79} / \text{WMFND172.79}(-1)) - 1) * 100$

= + 0.67348
(0.37)

+ 1.25212 .CPIE
(6.92)

+ 5.40439 1 / DMURATE25.54(-1)
(0.62)

$\overline{R}^2 = 0.779$

SEE = 1.785

D.W. = 1.698

Equation No.: 376

Name: Average Hourly Earnings -- Textiles

Mnemonic: WMFND181.89

Period: 1958-75

$((\text{WMFND181.89} / \text{WMFND181.89}(-1)) - 1) * 100$

= - 1.37331
(0.82)

+ 1.06973 .CPIE
(6.34)

+ 18.88200 1 / DMURATE25.54(-1)
(2.34)

$\bar{R}^2 = 0.797$

SEE = 1.66480

D.W. = 1.972

Equation No.: 377

Name: Average Hourly Earnings -- Knitting and Clothing

Mnemonic: WMFND231.49

Period: 1958-75

$((\text{WMFND231.49} / \text{WMFND231.49}(-1)) - 1) * 100$

= - 1.52311
(0.90)

+ 0.76582 .CPIE
(3.12)

+ 20.47110 1 / DMURATE25.54(-1)
(2.38)

+ 2.74054 DUMMY70
(2.15)

$\bar{R}^2 = 0.818$

SEE = 1.6099

D.W. = 1.863

Equation No.: 378

Name: Average Hourly Earnings -- Paper and Allied Products

Mnemonic: WMFND271.74

Period: 1958-75

$((\text{WMFND271.74} / \text{WMFND271.74}(-1)) - 1) * 100$

= + 0.66161
(0.32)

+ 1.08896 .CPIE
(5.23)

+ 8.37169 1 / DMURATE25.54(-1)
(0.84)

$\bar{R}^2 = 0.678$

SEE = 2.052

D.W. = 2.114

Equation No.: 379

Name: Average Hourly Earnings -- Printing, Publishing and Allied
Products

Mnemonic: WMFND286.89

Period: 1958-75

$((\text{WMFND286.89} / \text{WMFND286.89}(-1)) - 1) * 100$

= + 2.02228
(1.12)

+ 0.61110 .CPIE
(2.34)

+ 6.31924 1 / DMURATE25.54(-1)
(0.69)

+ 2.26047 DUMMY70
(1.67)

$\bar{R}^2 = 0.669$

SEE = 1.714

D.W. = 1.847

Equation No.: 380

Name: Average Hourly Earnings -- Petroleum and Coal Products

Mnemonic: WMFND365.69

Period: 1958-75

((WMFND365.69 / WMFND365.69(-1)) - 1) * 100

= + 1.40913
(0.75)

+ 1.09239 .CPIE
(5.77)

+ 4.66530 1 / DMURATE25.54(-1)
(0.52)

$\overline{R}^2 = 0.707$

SEE = 1.867

D.W. = 2.406

Equation No.: 381

Name: Average Hourly Earnings -- Chemical and Chemical Products

Mnemonic: WMFND372.79

Period: 1958-75

((WMFND372.79 / WMFND372.79(-1)) - 1) * 100

= + 2.26831
(1.41)

+ 0.94989 .CPIE
(5.87)

+ 2.18499 1 / DMURATE25.54(-1)
(0.28)

$\bar{R}^2 = 0.706$

SEE = 1.596

D.W. = 2.222

Equation No.: 382

Name: Average Hourly Earnings -- Miscellaneous Manufacturing

Mnemonic: WMFND391.99

Period: 1958-75

$((\text{WMFND391.99} / \text{WMFND391.99}(-1)) - 1) * 100$

= - 0.71900
(0.31)

+ 0.59033 .CPIE
(1.77)

+ 19.16450 1 / DMURATE25.54(-1)
(1.64)

+ 2.60945 DUMMY70
(1.51)

$\bar{R}^2 = 0.622$

SEE = 2.1899

D.W. = 1.624

Equation No.: 383

Name: Average Hourly Earnings -- Coal Mining

Mnemonic: WMICL61

Period: 1958-74

((WMICL61 / WMICL61(-1)) - 1) * 100

= - 3.29108
(0.74)

+ 2.52358 .CPIE
(4.64)

+ 6.59660 1 / DMURATE25.54(-1)
(0.31)

+ 0.12666 (((XMICL61 / MMICL61) / (XMICL61(-1)
(1.99) / MMICL61(-1))) - 1) * 100)

$\bar{R}^2 = 0.659$

SEE = 4.143

D.W. = 1.565

Equation No.: 384

Name: Average Hourly Earnings -- Crude Petroleum, Natural Gas
and Services Incidental to Mining

Mnemonic: WMICP64+96.9

Period: 1958-75

$((\text{WMICP64}+96.9 / \text{WMICP64}+96.9(-1)) - 1) * 100$

= + 0.72395
(0.48)

+ 0.90238 .CPIE
(1.87)

+ 0.49909 (((ZUSWRCMG\$(-1) / ZUSWRCMG\$(-2)) - 1) * 100)
(1.22)

$\bar{R}^2 = 0.573$

SEE = 3.077

D.W. = 2.573

Equation No.: 385

Name: Average Hourly Earnings -- Metal Mining

Mnemonic: WMIMM51.9

Period: 1958-74

$((WMIMM51.9 / WMIMM51.9(-1)) - 1) * 100$

= - 0.98854
(0.40)

+ 1.18801 .CPIE
(3.83)

+ 14.21720 1 / DMURATE25.54(-1)
(1.20)

+ 0.074899 (((XMIMM51.9 / MMIMM51.9) / (XMIMM51.9(-1)
(1.98) / MMIMM51.9(-1))) - 1) * 100)

$\bar{R}^2 = 0.600$

SEE = 2.4088

D.W. = 1.786

Equation No.: 386

Name: Average Hourly Earnings -- Nonmetal Mining

Mnemonic: WMINM71.87

Period: 1958-74

$((\text{WMINM71.87} / \text{WMINM71.87}(-1)) - 1) * 100$

= - 1.19584
(0.38)

+ 0.98944 .CPIE
(2.55)

+ 15.43400 1 / DMURATE25.54(-1)
(1.02)

+ 0.11180 (((XMINM71.87 / MMINM71.87) / (XMINM71.87(-1)
(2.25) / MMINM71.87(-1))) - 1) * 100)

$\bar{R}^2 = 0.446$

SEE = 3.002

D.W. = 2.378

Equation No.: 387

Name: Average Hourly Earnings -- Commercial Services

Mnemonic: WSV

Period: 1954-75

((WSV / WSV(-1)) - 1) * 100

= + 3.72815
(2.13)

+ 0.88996 .CPIE
(5.45)

+ 7.74780 1 / DMURATE25.54(-1)
(1.07)

$\bar{R}^2 = 0.594$

SEE = 1.969

D.W. = 2.729

Equation No.: 388

Name: Average Hourly Earnings -- Trade

Mnemonic: WTRAD602.99

Period: 1954-75

$((\text{WTRAD602.99} / \text{WTRAD602.99}(-1)) - 1) * 100$

= + 1.67605
(0.99)

+ 0.92030 .CPIE
(5.82)

+ 12.19330 1 / DMURATE25.54(-1)
(1.75)

$\bar{R}^2 = 0.644$

SEE = 1.905

D.W. = 1.944

Equation No.: 389(Primary)

Name: Average Hourly Earnings -- Utilities

Mnemonic: WUTIL572.79

Period: 1954-75

ln(WUTIL572.79)

= - 0.95506
(13.16)

+ 0.02041 .CPIE
(3.21)

+ 0.96344 ln(XUTIL572.79 / MUTIL572.79)
(25.00)

- 0.01228 DMURATE25.54(-1)
(1.77)

$\bar{R}^2 = 0.990$

SEE = 0.037

D.W. = 1.650

Equation No.: 389(Secondary)

Name: Average Hourly Earnings -- Utilities

Mnemonic: WUTIL572.79

Period: 1953-75

$((WUTIL572.79 / WUTIL572.79(-1)) - 1) * 100$

$= + 4.14114$
(1.89)

$+ .85667$.CPIE
(1.57)

$\bar{R}^2 = .063$

SEE = 6.628

D.W. = 2.612

Equation No.: 2713

Name: Wagebill Adjusting Entry -- Manufacturing

Mnemonic: WBMFADJ

Period: 1957-75

WBMFADJ / NMF

= - 0.95593
(1.80)

+ 0.03475 .CPIE
(1.88)

+ 17294.4000 1 / DPOP
(1.84)

+ 0.19218 DUMMY65
(1.35)

$\bar{R}^2 = 0.095$

SEE = 0.135

D.W. = 0.778

Equation No.: 2714

Name: Wagebill Adjusting Entry -- Mining

Mnemonic: WBMIADJ

Period: 1957-75

(WBMIADJ * 1000) / NMI

= + 1225.56000
(1.97)

+ 166.22500 .CPIE
(1.58)

- 1521.83000 DUMMY65
(2.40)

$\bar{R}^2 = 0.311$

SEE = 995.96

D.W. = 0.659

RHO = 0.650

Equation No.: 425

Name: Wagebill -- Public Administration (Including Defence)

Mnemonic: WBGPA

Period: 1956-76

ln(WBGPA)

= + .105900
(4.44)

+ .972090
(337.95)

ln(GEF.CGS.DMP\$ + GEF.CGS.DCWS\$
+ .92675 * GEF.CGS.NDWS\$
+ .58981 * GEF.CGS.WS\$
+ GEL.CGS.WSM\$)

$\overline{R}^2 = 1.000$

SEE = .008

D.W. = 1.060

